Health ☆ United States 1978

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE • Public Health Service • Office of the Assistant Secretary for Health

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U.S DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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THE SECRETARY OF HEALTH, EDUCATION, AND WELFARE
WASHINGTON, D.C. 20201

December 1, 1978

MEMORANDUM FOR THE PRESIDENT

I am respectfully submitting to you the annual report to the Congress, *Health, United States, 1978*, required by Section 308(a)(2) of the Public Health Service Act. As specified in the Act, the report presents data in four areas: costs and financing of health care, distribution of health care resources, utilization of health resources, and the health of the Nation's people. In addition, several chapters dealing with issues of current concern such as child health, prevention, cost containment, and the quality of medical care are included. The report was prepared by the National Center for Health Statistics and the National Center for Health Services Research.

This report provides data for assessing current trends in the health care system, measuring changes in the Nation's health status over time, and designing appropriate strategies and policies in health care delivery for the future. This type of assessment is critical at a time when serious questions are being raised about the high cost of health care and the extent to which higher costs bring commensurate increases in the quality of care. Moreover, the United States spends more on health care than most other industrial nations, and nearly half of health care expenditures today come from public funds.

This report shows that we have made considerable progress in improving the health status of Americans.

- The average life expectancy continues to increase.
- The overall death rate stands at historic low levels.
- The infant mortality rate continues to decline.
- For Americans under 50, mortality from acute respiratory diseases declined between 1970 and 1976.
- Mortality from ischemic heart disease decreased by 11 percent between 1968 and 1976.

Nevertheless, the report also shows that additional serious problems remain.

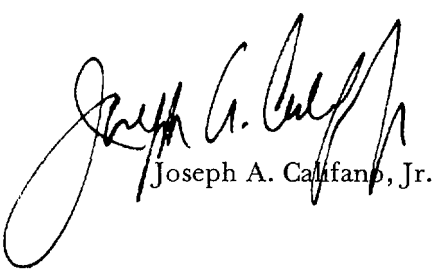
- Heart disease and cancer continue to be the two leading causes of death, accounting for nearly 60 percent of all deaths.
- An estimated 12.9 percent of deaths in 1976 might have been prevented had there been the appropriate medical intervention.
- Mortality from cancer of the lung and other respiratory organs rose in 1976, as well as deaths from chronic respiratory diseases.
- Despite evidence of the increased health risks of smoking, 42 percent of men and 32 percent of women smoke.
- A substantial proportion of young children are not protected from childhood diseases, e.g., 34 percent of children 1-4 years of age were not immunized against rubella in 1976.

As part of any effort to improve the health status of Americans, we must focus our health care resources carefully. As the data in this report demonstrate, a major part of that effort must be directed

at improving the productivity of health care providers and services and curbing health care costs that have risen at an alarming rate.

- Health expenditures rose in 1977 to consume the highest proportion ever of the Gross National Product, 8.8 percent.
- The price of individual services has mushroomed. The price of a semiprivate room tripled in cost between 1965 and 1975; physicians' fees doubled during that period.
- These increases have not been accompanied by increases in basic use of health care services but in changes in the size, complexity, and cost of the services provided. An estimated 50 percent of increased hospital costs can be attributed to increased intensity in the use of resources, including diagnostic tests and health technology.
- 36 percent of people over 40 years of age had never had an electrocardiogram.
- Despite the clear correlation between prenatal care and the health of a child, 25 percent of women experiencing live births had not seen a physician in the first 3 months of pregnancy.
- 10 percent of adults had never been immunized.
- 52 percent of Americans had not seen a dentist during the year; 20 percent of people over 5 years of age had not seen a dentist in at least 5 years.

Americans are among the healthiest people in the world. This report challenges us to address the serious health problems that remain. The data it provides on health status, health resources, and health care financing should provide further stimulus to our efforts to improve the productivity and distribution of health services and to take the steps necessary to promote health and prevent illness before it develops.



Joseph A. Califano, Jr.

FOREWORD

Health, United States, 1978 is the third annual report on the health status of the Nation submitted by the Secretary of Health, Education, and Welfare to the President and Congress of the United States in compliance with Section 308 of the Public Health Service Act. It presents, in a single volume, detailed statistics concerning recent trends and the current situation in the health care sector.

This report was compiled by the National Center for Health Statistics and the National Center for Health Services Research, components of the Office of the Assistant Secretary for Health. The National Committee on Vital and Health Statistics served in an advisory and review capacity.

A National Health Plan is being developed, and the objectives of this plan, as stated in President Jimmy Carter's directive, are "to improve the health of Americans by reducing environmental and occupational hazards and encouraging health-enhancing personal behavior as well as by improving the effectiveness of our medical care system." In working toward these objectives, current statistics and research findings are essential for identifying problem areas, establishing priorities, and assessing the potential benefits and costs of program alternatives.

The report is divided into two parts. Part A consists of six analytic and review chapters on subjects of current interest in the health field. Part B consists of 188 statistical tables with interpretive text. The appendixes include descriptions of the data sources, a glossary, and a guide to the tables.

Each chapter in Part A discusses a single public health issue as follows:

- Chapter I delineates a number of proposed cost-containment strategies and reports on research findings relevant to evaluating their effectiveness. Rapid inflation of health care charges is a recognized barrier to achieving improved access to and increased quality of medical care.
- Chapter II presents the data needed to assess potential benefits of health promotion and disease prevention activities. Since many deaths and episodes of disability are believed to be preventable or postponable, the prevalence of various health conditions and the efficacy of preventive measures are examined.
- Chapter III provides an extensive analysis of trends in children's social environment, physical health, and use of health services as a basis for health program planning. Since the International Year of the Child is being observed in 1979, it is appropriate to evaluate past progress and future objectives with regard to children's health.
- Chapter IV examines the extent of mental illness and trends in mental health services in terms of their implications for national health policies. The publication of the report of The President's Commission on Mental Health in 1978 has focused attention on emotional well-being as an important facet of health care.
- Chapter V discusses various noninstitutional alternatives to nursing homes and hospitals for providing long-term care. The provision of long-term care is becoming a major concern of health policy given the rapid increase in the size of the elderly population in this country.
- Chapter VI reviews and analyzes issues

of quality assessment and enhancement of health care. While there is a broad consensus that high quality health care is of paramount importance, there is less agreement as to the desiderata of that quality and what means are available for ensuring that quality health care is provided for the population.

The statistical section, Part B, is organized around four major themes:

- Health Status and Determinants
- Utilization of Health Resources
- Health Care Resources
- Health Care Costs and Financing

The tables presented were selected according to their relevance for policy and administrative decisions and the specifications of Section 308 of the Public Health Service Act. Unless updated, expanded, or otherwise modified, tables from the two previous editions of *Health, United States* were not included in this report. Location of statistical information included in this or previous editions is facilitated by the cumulative Guide to Tables found at the end of this report. Although, when taken together, the tables in the three editions represent a large array, they still constitute only a sampler of health statistics. The reader is referred to Appendix I—Sources and Limitations of Data—for assistance in locating more detailed tabulations.

This edition of *Health, United States* includes more tables showing recent trends, projections to the future, and international comparisons than did previous editions. The reader is cautioned to take into account changes in definitions and measurement techniques when interpreting data trends for each group of tables. These changes were given due consideration in designing the tables and preparing the text.

Accurate forecasts and projections depend on the soundness of underlying assumptions. Although care was exercised in selecting forecasts for presentation in this report, unanticipated changes in the physical or social environment, the state of medical knowledge, or in health legislation could invalidate seemingly reasonable forecasts.

Since health statistics were available for many different countries, it was necessary to be highly selective in the design of comparative tables. Thirteen countries, most of them industrialized and with health characteristics comparable to those of the United States, were selected for presentation. Because of this restricted selection, statements cannot be made as to the exact rank of the United States when compared to other countries.

Where several countries were similar with respect to most health variables, only one was selected for presentation; for instance, Sweden was chosen as representative of the Scandinavian countries. Mexico was included because of its special relationship to the United States. However, data for Mexico appear in only a few tables since reliable data were available for only a limited set of health characteristics.

Although the tables in Part B are divided into separate topical sections, it must be noted that the trends considered under different aspects of the health care system are not independent; strong interrelationships exist. For example, the trend toward increasing technological complexity is intensified by prevalent methods of health care financing. This creates rapid inflation in health care charges which, in turn, affects utilization patterns and possibly patterns of health and debility in the population. Although attention has been called to a few of the many instances of interconnectedness, cases remain where it is left to the reader to consider the influence that a change in one area of the health care system would have on other areas.

HIGHLIGHTS

I. Health Status and Determinants

The U.S. population was estimated to be 217.7 million at the beginning of 1978. Recent projections indicate that the population will increase to 233 million by 1985 and to 260 million by the year 2000, assuming that women have an average of about two children. The rate of population growth has slowed substantially since the 1950's, primarily as a result of the decrease in the annual number of births from 4.3 million in the late 1950's to 3.2 million in 1976.

If the population continues to grow at the 1970–76 average annual rate, it will double in size in 87 years. In other industrialized countries with slower rates of growth than the United States, such as the German Federal Republic and England and Wales, it will take as many as 347 years for the population to double. In the lesser developed countries with higher rates of growth, such as Mexico, the population will double in about 17 years.

The number of people 65 years of age and over is projected to increase by about 9 million, or from 10.7 percent to 12.2 percent of the population, by the end of the century. Since the elderly are less healthy and utilize more health services than younger people, the increasing number of elderly portends increased demand for health services.

Unprecedented in U.S. history is the recent reversal of metropolitan and nonmetropolitan growth patterns. Beginning in 1970, the trend towards urbanization reversed. From 1970 to 1976, the population of nonmetropolitan counties increased by 8 percent compared with 5 percent in metropolitan counties. People moving to nonmetropolitan areas tend to be older and consequently less healthy and more in need of medical care than those moving to metropolitan areas, creating additional pressure on health care services in these areas where resources are frequently already less than adequate.

Birth rates in general have been decreasing since the late 1950's. Women now are having their first babies at later ages than women in the past. From 1972 to 1976, rates of first births increased for women 25–29 and 30–34 years of age and decreased for women 20–24 years of age.

Birth rates for young teenagers 15–17 years of age did not begin to decrease until the early 1970's, unlike the rates for older teenagers 18–19 years of age which followed the patterns similar to women 20–24 years of age.

Teenage mothers are likely to face negative educational and income consequences when compared with older women who have babies. For each year a high school student could postpone her first birth, she could expect to complete almost an additional year of schooling. About 570,000 infants, or 1 out of every 5 born in 1976, were born to a mother under 20 years of age. About 2 out of 5 of these infants were born to unmarried adolescents.

In 1976, more than two-thirds of married women 15–44 years of age used contraception and close to half used the most effective

methods—oral contraceptives (22 percent), intrauterine devices (6 percent), or sterilization (19 percent). Previous increases in the use of the oral contraceptive pill had come to a halt by 1976.

The percent of unmarried teenage women who are sexually active increased from 27 percent in 1971 to 35 percent in 1976. During this period, the proportion who said they always used contraception increased from 18 percent to 30 percent.

About 1.2 million abortions were reported in 1976. Only 10 percent of these abortions were performed on out-of-State residents, compared with 25 percent in 1973, the year of the Supreme Court decision legalizing abortion. About one-third of the abortions in 1976 were obtained by teenagers, a relatively unchanged proportion in recent years.

The crude death rate in the United States stands at historic low levels, 8.9 deaths per 1,000 population in 1975 and 1976 and an estimated 8.8 per 1,000 in 1977. The rate, which declined generally during the first half of this century, rose slightly in the 1950's and 1960's and then resumed the downward trend. As the proportion of the population in the older age groups increases in the years ahead, the crude death rate is expected to rise again.

Age-adjusted death rates, which show what the level of mortality would be if no changes occurred in the age composition of the population from year to year, also are at record lows in the United States (6.3 per 1,000 population in 1976). Age-adjusted death rates are higher for males than for females, and they are higher for all other people than for white people. The difference in the rates for males and females has been increasing over time, while the difference between color groups has been narrowing slowly.

Life expectancy at birth in 1976 was 72.8 years, or 25.5 years more than it was in 1900. Most of the increase in life expectancy occurred between 1900 and 1950, when deaths of infants and young children from infectious and parasitic diseases were sharply reduced. Since 1950, 4.6 years have been added to life expectancy at birth in the United States.

Mortality rates for white and black infants have been declining in the United States over the past quarter of a century, but black infant mortality is still almost twice as high as white infant mortality, 25.5 and 13.3, respectively, in 1976.

Infant mortality rates and life expectancy at birth in the United States do not compare favorably with the statistics for other industrialized countries. However, Americans who survive to 65 years of age can expect to live as many additional years as men and women in other developed countries.

Heart disease and cancer continue to be the two leading causes of death in the United States, accounting for nearly 60 percent of all deaths in 1976. The age-adjusted heart disease death rate has been declining since the early 1950's, while the rate for cancer has risen slightly since 1950.

Ischemic heart disease mortality, which includes about 90 percent of all heart disease mortality, decreased by 11 percent between 1968 and 1976. Excluding changes in the age distribution of the population, the decline would have been close to 28 percent. Ischemic heart disease mortality has been higher in the United States than in other industrialized countries including Sweden, England and Wales, and Canada among others. The U.S. rates have been declining, while this has not been evident in the other countries.

Changes in the age distribution of the population accounted for a large proportion of the increase in cancer death rates between 1950 and 1976. The age-adjusted cancer death rate increased by only 5.5 percent during the 26–year period compared with an increase of 26 percent in the crude rate. For people under 45 years of age, the cancer death rate has actually been decreasing since about 1950.

Most women are receiving prenatal care

early in pregnancy. In 1976, nearly three-fourths received prenatal care in the first 3 months of pregnancy compared with a little more than two-thirds of the women in 1970. However, one-fifth of those who face the greatest risk to themselves and their babies—young girls under 15 years of age—received late prenatal care or no care at all in 1976.

A substantial proportion of young children still are not fully protected against common childhood diseases. In 1976, 34 percent of children 1–4 years of age were not protected against rubella, 32 percent were not protected against the measles, and 10 percent had not had any doses of polio vaccine. Children living in poverty areas of central cities were less likely to have been vaccinated than those in nonpoverty areas of the cities.

Despite mounting evidence on the increased risks, about a third of the population 20 years of age and over were cigarette smokers in 1976. The proportion of women who were current smokers declined by about 6 percent from 1965 to 1976, compared with a 20 percent decline among men. Smoking among high school senior girls, which was increasing up until the mid 1970's, now appears to have stabilized.

Low income people in general have worse health than people with higher incomes. In 1976, about half of the population 45–64 years of age with family incomes of less than $5,000 were limited in their usual activity because of a chronic condition, compared with about a sixth of the population with incomes of $15,000 or more. Similarly, people 45–64 years of age with low family incomes had more than 3 times as many bed-disability days per person as people with higher incomes (19 days versus 6 days).

In 1976, 14 percent of the civilian noninstitutionalized population were limited in activity because of chronic diseases or impairments. Arthritis and rheumatism and heart conditions were the leading causes of activity limitation for people 45 years of age and over. Asthma was the primary limiting condition for children under 17 years of age.

According to dental examinations of a sample of the civilian noninstitutionalized population in the early 1970's, more than two-thirds of the population 6 years of age and over needed dental care. More than half of the people 6–44 years of age needed treatment for decayed teeth. The need for dental care was greater among people with low incomes than among those with high incomes.

Gonorrhea continues to rank first among reportable communicable diseases, although data for 1976 and 1977 suggest a reversal of the long-standing upward trend, in particular for people under 30 years of age.

Low-birth-weight infants are at greater risk of future health problems than are other infants. In 1976, 7.3 percent of all infants were low-birth-weight. In general, unmarried women had about twice the proportion of low-birth-weight infants as married women (13 percent versus 6 percent). Women who began prenatal care early were less likely to have a low-birth-weight baby.

II. Utilization of Health Resources

Despite an increasing physician-population ratio, the annual number of physician visits per person has been fluctuating within rather narrow limits. From 1972 to 1976, the ratio increased by approximately 12 percent to 16 physicians per 10,000 population, while the number of visits remained relatively stable at about 5 per person per year.

While ambulatory care is provided primarily in physicians' offices, individuals in low income families, members of racial minority groups, and residents of the core counties of metropolitan areas obtain a greater than average portion of their care from hospital outpatient departments and emergency rooms.

People visit a doctor's office for medical examinations more often than for any other reason. Acute upper respiratory infections (except influenza) was the leading diagnostic category for males and females in 1975–76; these infections were most frequent in children. For males, heart disease was the second

most common diagnosis; for females, hypertension.

Subscribers to prepaid group medical plans average fewer days of hospital care, but have more ambulatory physician contacts, than do individuals with other forms of insurance coverage. For example, in 1975, the number of hospital days for persons in prepaid group plans averaged 628 per 1,000 persons, compared with 785 days for persons insured on a fee-for-service basis. The average number of physician visits was 5.6 and 4.8 for the two groups, respectively.

Utilization of dental services varies markedly with socioeconomic status. In 1975–76, people in families with incomes of $15,000 or more reported twice as many visits per person (2.1) as people in families with incomes under $5,000 (1.1). The income differential was particularly great for children and the elderly.

An estimated 32 million people, or 15 percent of the population, had mental disorders in 1975. About 75 percent received care as outpatients in either medical or mental health treatment settings.

The volume of care provided in short-stay hospitals has been increasing. From 1971 to 1976, the number of discharges increased by 11 percent to 36.5 million, and the number of days of care increased by 5 percent to 292.4 million.

Projected increases in the population's proportion of elderly—the most frequent users of hospital services—will alone account for increasing demand for such services in the future. Also adding to the demand is the increase in the number of days of care utilized by the elderly. From 1965 to 1975, the number of days of hospital care per person 65 years of age and over increased by 21 percent, about 3½ times the increase for the total population.

Although childbirth was the most common reason for hospitalization in 1975–76, heart disease, cancer, and fractures accounted for more days of care. Heart disease and cancer alone accounted for about a fifth of all hospital days and a third of the days for people 65 years of age and over.

People in families with low incomes are generally hospitalized more often and, once hospitalized, they remain in the hospital longer than people with higher incomes. The income differential in length of stay is most pronounced for people under 65 years of age. On the average, people 45–64 years of age with incomes less than $5,000 spent more than 3½ days longer in the hospital than people with incomes of $15,000 or more.

Approximately 40 percent of the people hospitalized in 1975–76 underwent surgery. Among patients of all ages, biopsies were the most frequently performed procedure. Tonsillectomy was the most common operation for children, but the rate was half of what it was in 1965–66 (8.5 compared with 16.2 per 1,000 children under 15 years of age).

The number of operations per 1,000 persons increased by almost 25 percent during the period 1965–66 to 1975–76. For the elderly, the likelihood of having an operation increased by 44 percent during the 10-year span. For women, more than 2½ times the proportion of deliveries involved cesarean section in 1976 than in 1965.

The institutionalized population in the United States is predominantly elderly—two-thirds are 65 years of age and over—and female (60 percent). Nursing home residents, in particular, are elderly—85 percent were at least 65 years of age, and 70 percent were 75 years of age and over.

In 1976, 60 percent of nursing home residents were discharged to another health facility. About half of all residents discharged from nursing homes in 1976 had been there for less than 3 months and 12 percent for no more than 6 months. Less than 10 percent had been in a nursing home for 3 years or more.

During the past two decades, treatment for the mentally ill shifted from inpatient to outpatient care. While the number of episodes in State and county hospitals per 100,000 population declined by 44 percent to

283 in 1975, the number of episodes per 100,000 population increased in all outpatient facilities by more than 9 times to 2,185. Utilization of psychiatric units of general hospitals also increased during this period. By 1975, 81 percent of all episodes of care were provided in outpatient settings or in short-stay general hospitals.

Contributing to the decline in use of State hospitals were the use of psychotropic drugs, the changing ideology of care for the mentally ill, and Federal support of nursing home care for the chronically mentally ill through the Medicare and Medicaid programs.

III. Health Care Resources

One out of every seven new jobs created between 1970 and 1977 was in the health care industry. The number of people employed in the industry grew by 50 percent during this period to 6.3 million, while the number employed in the total economy grew by only 18 percent. The increase during this same period in the health services component of the Gross National Product (GNP) was also greater than the increase in the overall GNP.

Physician-population ratios have been recently increasing rather rapidly in most Western industrialized countries. In the United States, the ratio increased 10 percent between 1960 and 1970. Projections of additions and losses to the physician supply in the United States suggest that the physician-population ratio will continue its rapid increase for at least another decade.

A substantial majority of office-based physicians still work as solo practitioners or in two-physician partnerships. The percent of physicians working in group practices has, however, been growing relatively rapidly during the past several years, from 18 percent in 1969 to 24 percent in 1975.

Physicians and dentists are disproportionately concentrated in metropolitan areas. In 1976, there was an average of 19 physicians per 10,000 population in metropolitan areas, compared with 8 per 10,000 in nonmetropolitan areas. The recent growth in the supply of physicians has not materially reduced the geographic imbalance.

Considerable geographic variation exists in the supply of health personnel relative to population. The Northeast had the highest ratios of physicians, registered nurses, dentists, and dental hygienists. The South had the lowest physician-population ratio but employed more allied medical personnel, especially practical nurses.

Community hospitals provide most of the hospital care in the United States. In 1976, 4 out of 5 hospitals (6,054) were community hospitals, and they contained 71 percent of all hospital beds. The number of beds per 1,000 persons increased from 3.6 in 1960 to 4.6 in 1976.

One of the standards set forth in the National Guidelines for Health Planning states that the number of non-Federal short-stay hospital beds should generally be less than 4 per 1,000 population in a Health Service Area. In 1976, only 14 States had fewer beds than the proposed standard, whereas in 1950, before the Hill-Burton Program was fully implemented, 36 States had fewer. Hill-Burton funds were used for the modernization of outmoded hospital facilities and new construction.

The number of nursing home beds increased about 10 percent per year between 1963 and 1971; however, during the 1970's, the rate of growth slowed substantially to less than 4 percent per year. In 1976, there were 1.4 million beds in nursing homes.

IV. Health Care Costs and Financing

National health expenditures rose to $162.6 billion in fiscal year 1977, or $737 per person. This health expenditure accounted for the largest share of the Gross National Product yet reported for health expenditures (8.8 percent).

While total health expenditures have risen at an average annual rate of 10.1 percent

since 1950, they experienced accelerated increases since 1965 with average annual increases of 12.7 percent. Half of this increase has resulted from price increases.

Between 1950 and 1977, an increasing proportion of total health care expenditures was spent on inpatient care (i.e., hospital and nursing home care). Hospital care expenditures alone accounted for 40 percent of national health expenditures in fiscal year 1977, compared with 31 percent in fiscal year 1950. Nursing home expenditures jumped from less than 2 percent of all health expenditures to 8 percent, increasing almost 17 percent annually.

Between 1965 and 1977, public expenditures rose at nearly twice the rate of private expenditures. By 1977, public expenditures accounted for 42 percent of all spending for health care, up from the relatively stable 25 percent share from 1950 to 1965, the years just preceding implementation of Medicare and Medicaid.

Nearly 60 percent of public program expenditures ($36.2 billion) were devoted to hospital care, with the largest amounts paid by the Medicare program. Physicians' services accounted for an additional $7.8 billion, or 12 percent of the total, followed closely by outlays for nursing home care of $7.2 billion, or 11 percent.

Per capita payments by the Medicare program varied among geographic regions. In both 1971 and 1976, per capita payments for hospital care under Medicare were highest in the Northeast and lowest in the South, while per capita payments under Medicare's supplementary medical insurance program were highest in the West and lowest in the North Central Region. Massachusetts, New York, Nevada, and California had the highest average per capita reimbursement levels in 1976.

Per capita expenditures for personal health care services increased sharply with age. In fiscal year 1976, $249 was spent for each person under 19 years of age, $547 for those 19–64 years of age, and $1,521 for people 65 years of age and over.

About 11 percent of the civilian population did not have health care coverage in 1976. Coverage was lowest in nonmetropolitan areas, in the South, and among people with low family incomes.

Private health insurance paid for more than one-quarter of all health care expenses in fiscal year 1977. The bulk of these payments were for hospital care (61 percent) and physicians' services (30 percent).

Historically, medical care price increases have exceeded the increases registered by the total Consumer Price Index. Between 1950 and 1970, medical care prices increased almost twice as fast as all prices, but in the 1970's they rose only slightly faster than all prices.

In 1977, medical prices rose at about the same rate (9.6 percent) as in 1976 (9.5 percent), but these were substantially higher rates of increase than those reported up through 1973.

Since the introduction of Medicare and Medicaid in 1965, the annual rate of increase in the cost per day of hospital care has been about 14 percent, up from 7 percent during the preceding 10 years.

Payroll costs as a proportion of hospital costs have been decreasing steadily since 1966, when they were 61 percent, to a little more than half the cost of hospital care in 1976.

Cancer is one of the most costly disease categories, surpassed only by diseases of the circulatory system, external causes, and diseases of the digestive system. The indirect cost of mortality was the largest component of the economic cost of cancer.

ACKNOWLEDGMENTS

This report was developed by the National Center for Health Statistics and the National Center for Health Services Research, two elements of the Office of Health Policy, Research, and Statistics. The United States National Committee on Vital and Health Statistics served in an advisory capacity, making substantial contributions during both the planning and review phases. As is clear from the report itself, it profited from the participation of the staffs of every Public Health Service agency as well as the staffs of a number of other governmental and nongovernmental organizations.

Overall responsibility for planning and coordinating the content of the report rested in the Division of Analysis, National Center for Health Statistics, under the supervision of Jacob J. Feldman, Ph.D., Associate Director for Analysis, and Mary Grace Kovar, Chief, Analytical Coordination Branch. Donald E. Goldstone, M.D., Deputy Associate Director for Medical and Scientific Affairs, National Center for Health Services Research (NCHSR), was responsible for coordinating the NCHSR portions of the report.

The principal authors of each chapter in Part A and each section of Part B are identified. In addition to credited authorship of particular sections, the following contributors are especially noteworthy:

From the National Center for Health Statistics (NCHS), statistical supervision and review were provided by Lois A. Fingerhut, Joseph Gfroerer, Madelyn Lane, Judith Singer, and Cecilia A. Young. Editorial review was provided by Alice Haywood, Margot Kemper, Gerri Michael, and John E. Mounts. Jean Williams served as computer programming consultant. Jeanenne Barry, Ella H. Berry, Dorothea Donahue, and Madelyn Lane were responsible for the production of the report. Nancy Pearce served as liaison with the NCHS data systems.

From the National Center for Health Services Research (NCHSR), coordination and liaison activities were performed by H. David Banta, M.D., and Karen Kohlhof. Statistical supervision and review were provided by James Daugherty and Linda Siegenthaler. Kathryn Beach, Polly Estrin, Angela Lenart, Ann Milbourne, Gloria Newberry, and Linda Ward were responsible for the production of the NCHSR portions of the report.

Lucila Jimenez and Carmen Noemi Velez provided research assistance on the chapter entitled Prevention; Joseph Gfroerer and Judith Singer provided research assistance on Children and Youth; Brenda Jones assisted with Cost Containment; and Mary Pellarin and Barbara Livieratos assisted with the chapter entitled Long-Term Care.

CONTENTS

PART B

Data on the Nation's Health

SYMBOLS

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Category not applicable	. . .
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Quantity more than 0 but less than 0.05	0.0
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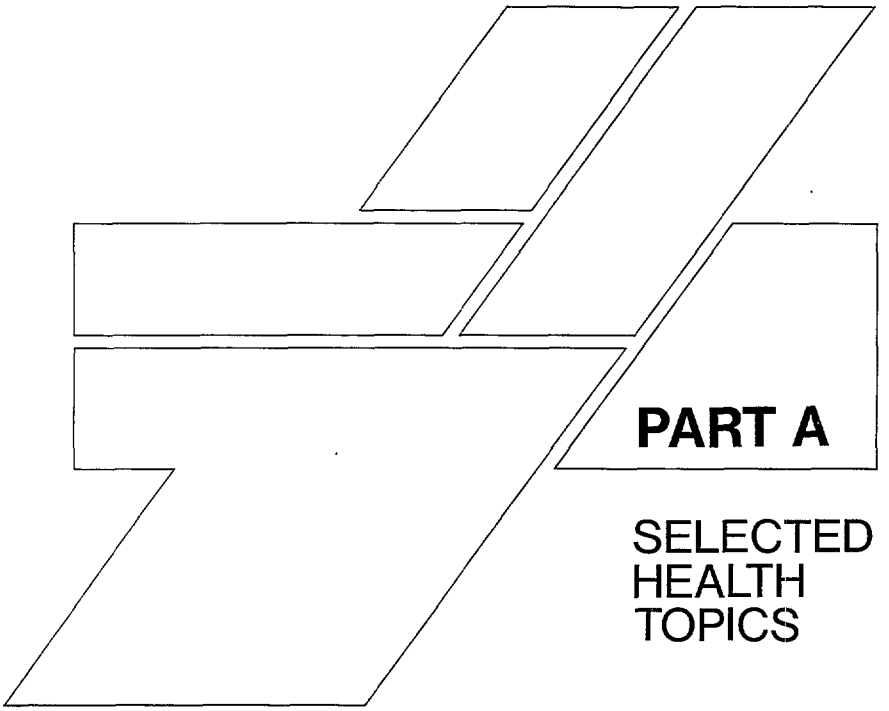

PART A

SELECTED HEALTH TOPICS

CHAPTER I

Cost Containment[a]

During the last 25 years, the health industry in the United States has grown much more rapidly than the economy as a whole. Health expenditures as a percentage of the Gross National Product have doubled from 4.5 percent in 1950 to 8.8 percent in 1977 (Part B, table 146). Such a substantial shift in the resources allocated to health care has not been accompanied by comparable increases in the basic utilization of the health system, but rather, by continuing changes in the size, complexity, and cost of the service package represented by a day of hospital care or a physician visit. Per person utilization of hospital days increased only 6 percent between 1965 and 1975 (NCHS, 1977a), and the national physician-visit rate for 1976 exceeded the number of physician visits per person in 1966 by only 14 percent (NCHS, 1977b; NCHS, 1968). However, the price of a semiprivate hospital room more than tripled from 1965 to 1975. Physician fees nearly doubled over the 10-year period, rising slightly faster than the rate for all items in the Consumer Price Index (Part B, table 171).

The rapid inflation of health care costs, and of hospital costs in particular, has alarmed both government officials and the American public. As noted in testimony to the U.S. Council on Wage and Price Stability (1976), health care has come to represent a heavy burden for the private sector. Government health budgets are being squeezed between the pressure of inflation and the pressure from taxpayers to reduce public expenditures. At a time when the annual increase in the total Federal and State cost of Medicare and Medicaid will amount to about 15 percent in fiscal year 1978 (Office of Management and Budget, 1978), cost containment has emerged as a nearly essential prerequisite for continued pursuit of the positive goals of public health policy (Rosenthal, 1978).

The country's deep, historic commitment to health care is reflected in institutional arrangements that encourage its continued growth and development, including personal income tax deductions for medical expenses and insurance premiums, provision of health insurance as an employment benefit, public subsidies for health manpower training and research and development, and government financing of health care for the poor and elderly. However, this commitment has now come to represent such a substantial claim on the Nation's resources as to arouse concern that other public and private priorities are being threatened.

There are two aspects of the cost-containment issue that ought to be distinguished. The first is one of efficiency. Can the upward trend in health costs be slowed by encouraging greater efficiency in the health system's use of resources? If such economies could be realized, then further increases in the consumption of health care need not necessarily require the sacrifice of alternative goals and

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consumer demands. At a higher level of discussion, this question even extends to consideration of the relationship between health care and health itself. It is possible that there are more cost-effective ways to improve the health status of the population than to spend more money on medical care services.

The second aspect of the cost-containment issue deals with total resource allocation. Does the allocation of 10 percent of the country's resources to health care accurately reflect the importance of health among national consumption priorities? For many other services, this issue can be resolved satisfactorily in the marketplace; people simply reveal their preferences by the way they spend their money. In the health industry, however, it is often the case that the providers and consumers who make the consumption decisions do not bear the immediate financial consequences. Because of insurance coverage and government and employer subsidies, there is a tendency to undervalue the real costs of health services that are consumed and, as a result, to consume perhaps more than is truly warranted. However, the relative growth of health expenditures is at least in part a reflection of genuine social preferences that arise from such factors as the aging of the U.S. population and rising real incomes.

The main purpose of this chapter is to identify the cost-containment strategies that have been proposed and to report on findings from the research literature that may be helpful in evaluating their effectiveness. In order to set the stage for this presentation, the structural peculiarities of the health sector that tend to interfere with the satisfactory resolution of the efficiency and resource allocation issues implicit in cost containment must first be discussed.

EFFICIENCY, RESOURCE ALLOCATION, AND PECULIARITIES OF THE HEALTH SYSTEM

Perhaps the most significant peculiarity of the health care system is the infinite complexity of the service that it offers. Among its many dimensions are prevention, treatment, and cure of injury and disease; maintenance of patients with incurable and chronic illnesses; caring and reassurance; reduction of risk; and resolution of diagnostic and prognostic uncertainties.

Given the practical impossibility of defining a standard unit of health care which encompasses all of these considerations, it is also very difficult to monitor the efficiency of health care providers. Attempts to constrain the costs of a service, as measured along one dimension, are likely to produce cutbacks in some other aspect of care. As a result, service providers are traditionally reimbursed for whatever costs are incurred rather than on the basis of a standard rate. Such a system, unfortunately, neither rewards efficiency nor penalizes waste. Hospitals, for example, which are automatically reimbursed for all allowable expenses incurred during the previous year, are largely assured that new equipment and expanded facilities will be paid for, no matter how excessive their cost.

Physician reimbursement, whether from commercial insurance carriers, government intermediaries, or Blue Cross/Blue Shield insurers, is generally based on "customary, prevailing, and reasonable charges." The actual reimbursement rate, known as the reasonable charge, is equal to the lowest of one of three figures—the charge actually billed by the physician, the physician's customary charge, or a specified statistical combination of the prevailing charges of all physicians in the local area (Burney and Gabel, 1978). Hence, it does not pay for a physician to charge any less than other physicians in the area. Since the actual rate reimbursed by insurance carriers increases as the fees of all physicians in the area are raised, such reimbursement practices are ineffective in restraining costs (Holahan et al., 1978).

A second implication of the complex and multidimensional nature of health services is that there are many possible avenues of technological advancement. It has been estimated that approximately 75 percent of the increase in hospital costs, relative to general inflationary trends in the economy, can be

attributed to the increased resource intensity of a day of hospital care (Feldstein and Taylor, 1977). New technology is one of the factors responsible for this trend (Redisch, 1978), although its net impact on health costs has yet to be accurately measured (Wagner and Zubkoff, 1978).

The significant feature of technical change in the health care market is that it may be worthwhile without having a clear, demonstrable impact on health outcomes or on treatment costs. For instance, the benefits of a new technology may be in a higher level of diagnostic certainty or in a reduction of danger or discomfort to the patient. Additionally, technological innovations are often cost raising rather than cost reducing. There is little question that the introduction of antibiotics and other drugs prior to 1950 was cost effective in terms of the lives that were saved. The major costs of these advances were for research and development and marketing. Yet other technological developments such as chemotherapy, organ transplantation, and intensive care facilities for heart attack and burn victims require extensive outlays for equipment and skilled personnel (Rice and Wilson, 1976), and are often more important in prolonging life or in reducing the risk of complication than in producing an outright cure.

How such changes impact on the cost of treating selected illnesses has been examined in a research study conducted by Scitovsky and McCall (1976). According to the study, changes since 1951 in treatment methods for specific illnesses have raised per-patient costs in some instances and saved money in others; however, the overall net effect of changing medical technology has been to make treatment more expensive. Cost increases can be attributed to greater use of diagnostic tests, more frequent use of specialists (particularly in hospitals), and the more costly nature of medical and surgical procedures. The notable increase in the cost of treating heart attacks has largely been a result of the use of intensive care units and other special facilities. Yet the present method of treating heart attacks is an example of a medical innovation that should perhaps be examined more carefully. One recent study of the effectiveness of early home care versus extended hospital stays for heart attack victims suggests that there is no difference in outcomes for low-risk patients who are released early and spared the economic expense of hospital care (McNeer et al., 1978). Such conclusions, of course, are tentative and require further validation.

All in all, technological change seems to present more of a chance to expand the capabilities of the health system at significantly increased cost, than to economize on the intensity of its resource use. As in the case of coronary care units, the system is constantly confronted with the problem of weighing all too obvious costs against benefits that are often more a matter of subjectivity and risk than tangible outcome. Were it not for the additional complication introduced by institutional arrangements that often divorce health care purchasing decisions from the responsibility for payment, it would not be so important for policymakers and researchers to try to assess these trade-offs. In other areas, a simple test is available for determining whether even intangible benefits are worth their cost: Are consumers willing to pay the price? Unfortunately, this test gives false readings in regard to health care.

First of all, the scientific and technical content of health services is often so great that patients are not able to make fully informed choices. There is even a tendency to view the costliness and technical sophistication of various services as a signal of their quality. Particularly in regard to hospital services and diagnostic tests, patients depend on the services of a skilled and highly trained "purchasing agent" (i.e., a physician) to assist them in their utilization decisions. In discharging their professional responsibility for safeguarding the welfare of their patients, physicians are not likely to economize on services that offer even the smallest chance of benefit, particularly since they bear none of the cost and are trained to focus on patient needs. One research study uncovered a 17–fold variation in laboratory test costs that could not be explained by the type or severity of the medical conditions seen by the internists involved (Schroeder et al., 1973). The same evaluation demonstrated that the cost

of laboratory tests could be reduced 29 percent by simply informing the physicians of the wide disparities in their behavior.

It was observed in a theoretical discussion of this issue that the cost of the resources consumed in a day of hospital care is neither fully apparent to the physician nor fully reflected in the patient's bill (Redisch, 1978). Institutional health care settings base their prices on average costs; prices are calculated by dividing direct operating costs and overhead expenses by the number of patient days an institution expects to provide. Such pricing policies spread the cost of the hospital's services across all patients, protecting the more expensive patients from the full cost of the resources used.

An even more significant feature of the health system which separates the payment responsibility from the decision to seek care is the widespread coverage of health expenses by public and private insurance programs. In fiscal year 1950, only 31.7 percent of all personal health care expenditures were paid by private health insurance, government programs, and philanthropy; in fiscal year 1977, 69.7 percent of health expenditures were covered by third parties (Part B, table 153). Hospital expenses in particular were almost completely covered by third parties—94.1 percent in fiscal year 1977 (Part B, table 162).

Since 1950, the average cost in real resources of a day in the hospital has increased almost 5 times, but the out-of-pocket cost to the consumer has hardly changed in real terms (i.e., in relation to the prices of all other goods and services) (Feldstein and Taylor, 1977). Although these greatly increased costs are paid by individuals and their employers as health insurance premiums, they do not affect the demand for services at the time of purchase. Any individual's use of health services has such a tiny effect on his or her insurance premium that there is no incentive to economize. Furthermore, having already paid for the insurance, patients are inclined to get their money's worth. The subsidization of health insurance premiums and related employer contributions through the present tax system further disguises the real costs of health care (Feldstein and Taylor, 1977; Mitchell and Phelps, 1976).

COST-CONTAINMENT STRATEGIES

The preceding section highlighted the major reasons for believing that the health system tends to be wasteful in its use of resources and for questioning the reliability of the marketplace as an institution for organizing decisions about the allocation of resources for health care. Yet there is no certain way to go about containing the inflationary growth of health expenditures and still ensure an equitable and efficacious system of care (Rosenthal, 1978). What is even less certain is how to accomplish this objective in a manner that is acceptable to the many different interests that are involved. The multiplicity of competing interests, the decentralization of decisionmaking, and the incentives to resist cost controls in the health industry may be forces too powerful to permit success (Hanft, Raskin, and Zubkoff, 1978).

Even if a compromise could be reached, the appropriate direction for government intervention to take is hardly clear. Many cost-containment proposals are directed at the hospital sector, where the rate of inflation has been most severe. It might be easier to intervene in the health system through a limited number of institutions than through some 360,000 physicians. On the other hand, the advocates of policies directed at medical care providers argue that the physician's role in influencing the content and level of service is too important to ignore.

An alternative approach would be to avoid direct intervention and instead to develop policies to restructure the health care market in ways that would promote efficiency and more careful consideration of the costs and benefits of expanded service. Some combination of these two strategies would be another possibility (National Commission on the Cost of Medical Care, 1978).

In the following sections, the lessons that have come from experience with a variety of cost-containment strategies will be described and analyzed. The unintended, sometimes perverse effects of intervention will also be discussed, with a special effort made to underscore the evidence suggesting that cost-containment instruments are often most effective when combined.

First to be considered are a number of regulatory strategies which would abandon any further reliance on the marketplace as a mechanism for setting the level of health care spending and would instead plan such allocation decisions explicitly and on the basis of political and technical determinations. These strategies include regulation of new investment in institutional facilities, programs to evaluate the existing supply of hospital beds with an eye to their closure or conversion to other uses, the establishment of ceilings on hospital capital expenditures and revenues, and policies to limit the supply of physicians.

It has been argued that limiting the available supply of health services will not only establish control over the total amount of health spending, but will also cause the allocated resources to be utilized more efficiently. Underlying this argument is a growing conviction that whatever the amount of health services available, they tend to be utilized. In hospitals, for example, physicians seem to be under pressure to maintain utilization rates by adjusting admissions and lengths of stay and by making use of expensive equipment that has been installed (Schweitzer, 1978; Roemer and Shain, 1959; May, 1975; Klarman, 1978; Institute of Medicine, 1976b; McClure, 1976).

A second set of regulatory strategies is concerned with the development of reimbursement or rate-setting policies that will induce service providers to devote greater energy and attention to maximizing the efficiency of their operations. As was noted earlier, the prevailing system of cost-based reimbursement has exacerbated the expansionary trend in health spending by failing to reinforce a cost-conscious attitude on the part of providers.

Finally, consideration is given to a set of cost-containment strategies that would strengthen the marketplace as an instrument for imposing discipline on health care costs by bringing the financial and decisionmaking responsibilities closer together and by fostering competition among service providers. Proponents of these less regulatory strategies note that direct public controls necessarily involve the explicit rationing of a restricted supply of health services among competing uses, all of which are potentially worthwhile. They argue that the traditional reluctance of our society to weigh the benefits of more and better health care against its cost in monetary terms is no more likely to be challenged in the political arena than it has been in the health care marketplace (Havighurst, 1977). Market reforms, such as the introduction of more extensive consumer cost sharing in the health insurance system or the promotion of prepaid group practice, are proposed as a way of allowing for subjective valuation of the benefits of health care, while assuring that patients and providers are more fully conscious of their true costs.

Supply Controls

Hospital certificate of need.—Certificate-of-need programs institute public control over the expansion of hospital capacity by requiring formal justification and review of proposed investment projects with costs in excess of a specified dollar amount. The National Health Planning and Resources Development Act of 1974 (Public Law 93–641) requires that all States receiving Federal funds under the law introduce certificate-of-need programs by 1980. Certificate of need was in limited operation even before the passage of Public Law 93–641, with several States having already initiated their own programs; in addition, Section 1122 of the Social Security Act Amendments of 1972 (Public Law 92–603) required controls of this type under the Medicare, Medicaid, and Maternal and Child Health reimbursement programs.

Descriptive and empirical studies of experience with certificate-of-need and Section 1122 programs have documented a number of problems with the approach. A major

difficulty has been the impossibility of specifying objective, quantifiable standards of "need" (Klarman, 1978; Leveson, 1978). In light of the highly emotional, political, and technical considerations involved in assigning a monetary value to the benefits of lifesaving services, planning agencies face a difficult task in reviewing proposals for new equipment (Klarman, 1978). Furthermore, inadequate funding, staffing, and review standards may cause regulators to depend too heavily on information and technical expertise from the service providers that they are supposed to control (Noll, 1975; Salkever and Bice, 1978; Havighurst, 1975).

A second difficulty is that the effect of certificate of need in protecting existing hospitals from new competition removes one potential incentive for efficiency. It has also been observed that, because there is no upper limit on the total amount of investment that can be approved and because they control only new facilities, current certificate-of-need programs are neither compelled to weigh alternative investment priorities nor empowered to rechannel resources into uses more desirable than the projects that happen to be proposed.

The most widely publicized empirical study of the certificate-of-need process examined State programs in operation from 1968 to 1972, a period of time that preceded the enactment of Public Law 93–641 (Salkever and Bice, 1978). This study corroborated other tentative, empirical evidence that certificate-of-need and Section 1122 programs were effective in curtailing bed expansion (Rothenberg, 1976; Bicknell and Walsh, 1975). However, additional analyses indicated that certificate of need was not an effective instrument for containing total hospital costs. It appeared that certificate-of-need programs had induced a shift in the composition of hospital investment away from new beds and into other types of facilities and equipment, with the composition of annual expenditure increases affected but not the rate of increase in hospital cost (Salkever and Bice, 1978).

Further research on five States with early certificate-of-need programs (New York, California, Connecticut, Maryland, and Rhode Island) showed no consistently significant effect of certificate of need on hospital investment. Although some positive findings were observed for New York, the interpretation was clouded by the Economic Stabilization Program and by the fiscal restraint that affected New York State's public expenditures (Salkever and Bice, in press). This suggests that the effect of certificate of need on costs is an issue that has not yet been satisfactorily resolved. It may be that the effectiveness of certificate-of-need agencies may improve with time. Program maturity has been identified elsewhere as one of the factors which seems to influence the effectiveness of investment controls (Howell, 1977).

There are other reasons that these evaluations of the long-run impact of certificate-of-need programs are inconclusive. Because certificate of need was most likely to be instituted before Public Law 93–641 in States where the pressures for expansion were most intense, one might have expected to observe a relatively greater increase in nonbed investment in those particular States anyway. Furthermore, prior to and in anticipation of the regulatory program, hospitals may have committed themselves to a plan of accelerated investment and construction that carried over into the early period of regulation (Hellinger, 1976).

Whatever the experience with certificate of need so far, the effectiveness of such programs may be enhanced in the future. For example, the Carter Administration has proposed a limit on capital expenditures to be allocated among the States as part of a national hospital cost-containment policy (Title II, H.R. 6575). Each State would be limited to a federally determined ceiling on certificate-of-need approvals, thereby establishing a national limit on annual hospital investment. Presumably, imposition of these ceilings would force local planning agencies to evaluate the trade-offs among various investment proposals rather than review each certificate-of-need application in isolation from the others received over the course of a year.

The continuing development and application of supply and utilization standards, such as those provided in the recently published

National Guidelines for Health Planning (Public Health Service, 1978), should also improve certificate-of-need programs. Generally, there may be serious limitations to using standards of need that may not adequately reflect local preferences and that, if expressed in simple arithmetic formulas, cannot capture the peculiar health problems and resource configurations of different communities. Nevertheless, the imposition of a hospital-supply ceiling (4 beds per 1,000 population) and an occupancy standard (80 percent) has been proposed in hospital cost-containment legislation for use in conjunction with certificate of need (Title II, H.R. 6575). Specifically, areas not meeting these standards would be prohibited from granting certificate-of-need approval unless two old beds were removed for each new one added. Only 17 of 212 Health Service Areas would have qualified to expand bed capacity in 1974 under these standards (Dunn and Lefkowitz, 1978).

In addition to more formal linkage of planning agencies and rate-setting authorities, a set of controls complementary to certificate of need might also include utilization review, limits on the supply of physicians, and various forms of investment planning (Hanft, Raskin, and Zubkoff, 1978; Dowling, 1974; Bauer, 1978).

Hospital conversion and closure.—Certificate of need in its present form is a strategy limited to controlling the growth, and not the current availability, of the supply of hospital beds. Studies have estimated that current excess hospital capacity in this country is between 60,000 and 100,000 beds (Institute of Medicine, 1976b). The elimination of this excess capacity could offer potential savings on the order of $.5 to $5 billion depending, respectively, on whether portions of existing facilities or entire hospitals were closed (McClure, 1976). It is not surprising, therefore, that proposals have been advanced to offer Federal incentive payments for closure of unnecessary inpatient facilities or their conversion to some other use. Under the supervision of State and local health planning agencies, these payments would cover the costs of merging with other facilities, outstanding hospital debts, and new capital funds for conversion.

An alternative to offering financial rewards for the closure of unnecessary facilities is the adoption of a more punitive approach. It has been proposed, for example, that planning agencies should designate those institutions that ought to cease operations because of their "inappropriateness" (Title III, H.R. 9717). Financial sanctions, that is, the withholding of a specified percentage of the hospital's reimbursement under Federal financing programs, would penalize any failure to comply.

It is to be expected that attempts to close hospitals will meet stiff community resistance, as was the case in Canada (Armstrong, 1978). Closing hospitals will impose losses in employment, community prestige, and other aspects of social welfare that have not, and perhaps cannot, be measured (Hanft et al., 1978). Unless new hospital staff privileges for physicians are arranged elsewhere, the potentially serious impact on both their incomes and the quality of their services may also generate considerable resistance to hospital closure (Klarman, 1978).

The political viability of closing community hospitals is likely to depend on whether or not compensation is offered in the form of new, less costly health facilities or funds for other desired services. Cost consciousness involves making explicit choices between alternative uses of scarce resources. Unless the affected communities are given a share of the savings to be realized from closing unneeded facilities, they are not likely to either make or accept such difficult decisions.

Mandatory hospital revenue ceilings.—The Economic Stabilization Program of 1971–74 and the hospital cost-containment legislation proposed in Title I of H.R. 6575 are illustrative of a cost-containment strategy in which each institution is required to spend against a fixed and predetermined revenue limit. A distinguishing feature of this approach, in contrast to various reimbursement strategies, is that it breaks the usual connection between the hospital's revenues and its costs (Congressional Budget Office, 1977; Altman and Weiner, 1977). Furthermore, it is not the price of a hospital day that is regulated, but rather

the total revenues that a hospital may receive over the course of a year.

Phase II of the Economic Stabilization Program limited the rise in total hospital revenue because of price increases to 6 percent more than the previous year, a total increase of approximately 8 percent after adjustment for increased service intensity. While the program, administered by the Cost of Living Council, was apparently effective in reducing the wage increases of hospital employees, it did not seem to have the same effect on overall hospital costs. The explanation for the program's minimal impact seems to have been a combination of the ambiguity of the regulations, perverse incentives to increase hospital admissions and lengths of stay, and the expectation that controls would be short-lived and would not, therefore, require cost-saving managerial changes (Ginsburg, 1978; Lipscomb, Raskin, and Eichenholz, 1978). Although the inflation of the hospital component of the Consumer Price Index did slow during the program, this trend began prior to the initiation of controls and, therefore, cannot be clearly attributed to their presence. The acceleration of hospital inflation subsequent to the termination of Cost of Living Council controls would nevertheless suggest that the program did have a significant influence (Lave and Lave, 1978). In any event, it would be fair to say that evaluation of the Phase II experience has not produced definitive conclusions.

The recently proposed hospital cost-containment legislation (Title I, H.R. 6575) bears a close similarity to the final version of the Economic Stabilization Program, Phase IV, which was never implemented. In contrast to Phase II, Phase IV would have rewarded shorter lengths of stay by regulating revenue increases on the basis of patient admissions rather than patient days. Also, Phase IV would have restricted reimbursement per case to a declining rate beyond a specified increase in admissions, thereby eliminating the incentive under Phase II to obtain more revenue by raising the admissions rate (Lipscomb, Raskin, and Eichenholz, 1978).

Restricting the number of physicians.—The physician's key role in determining the level and mix of resources employed in the delivery of health care was referenced earlier. It has been estimated that 70 percent of personal health care expenditures are controlled by physicians (Blumberg, to be published). Since physicians utilize other health services such as hospital facilities and laboratory services, they have a multiplicative effect on total expenditures. On the basis of data for medical internists, it could be estimated that in 1972 a physician generated an average expenditure of $240,000 (Lyle et al., 1974). Accounting for inflation, this effect would have amounted to approximately $370,000 in 1977.

By 1980, the number of physicians graduating from medical and osteopathic schools will have doubled since 1966. If the current growth rate in the number of graduating physicians and the inflow of foreign medical graduates is maintained, the supply of physicians will have increased another 50 percent by the year 2000. Similar increases are expected in the numbers of other allied health workers (Morrow and Edwards, 1976).

Theoretically, such increases in the supply of providers should produce increased competition for customers and subsequent reductions in price. Physicians, however, are in the peculiar position of being able to influence the demand for their own services. Furthermore, the usual predictions of economic theory do not apply to situations where the public's demand for a service is practically insatiable in the aggregate, as sometimes seems to be the case with health care. As a result, it may be that the current rate of increase in the availability of physicians is a factor directly responsible for placing additional pressure on health care costs.

By limiting the entry of foreign medical graduates into this country, the Federal health manpower legislation enacted in 1976 (Health Professions Educational Assistance Act of 1976) signaled a major shift away from traditional policies of encouraging increases in the supply of physicians to a policy of curtailing such increases. Other restrictions that have been proposed would limit programs that presently offer support to medical schools on the basis of the number of students they enroll (i.e., capitation payments), or would require an American undergraduate degree as a prerequisite for

physician licensure (Congressional Budget Office, 1977).

The major unresolved problem with limiting the future supply of physicians involves a trade-off between controlling health expenditures and correcting the existing geographic and specialty maldistribution of physicians (Congressional Budget Office, 1977). It is likely to be much easier to redistribute the country's physician resources by redirecting the flow of newly trained physicians than by rearranging the existing supply. For example, by linking institutional support to increased training opportunities in family practice or other primary-care specialties, it should be possible to increase the proportion of physicians in primary care. Similarly, the National Health Services Corps has been developed as a strategy for influencing the geographic distribution of physicians by offering scholarships with the obligation of a payback of service in underserved areas. Yet, unless a large percentage of these graduates do indeed select and stay in the geographical areas and types of practice where they are most needed, these redistributional objectives may not be achieved.

Incentive Reimbursement

Prospective institutional rate setting.—In contrast to traditional, retrospective methods of cost-based reimbursement, prospective rate setting establishes the level of third-party payment in advance and without regard to the costs actually incurred by the institution. The presumption is that hospitals are thereby forced to make more efficient use of the resources under their control. A variety of approaches (based on formulas, budget review, and budget negotiation, for example) have already been tried by different States (Dowling, 1974), and evaluations of several experiments in rate setting have been reported (Hellinger, 1978). A new round of federally sponsored evaluations of prospective reimbursement has also been initiated recently (Hellinger, 1978). Consequently, it seems best to record here only some tentative conclusions about the country's experience with rate setting to date.

Although some rate-setting commissions recently have claimed success in holding down hospital-cost inflation, scientific evaluation of these programs has just begun. However, none of the early rate-setting experiments appear to have had a demonstrably significant effect on hospital costs (Hellinger, 1978). Setting a prospective rate on the basis of the previous year's actual costs only tends to reinforce existing inflationary trends. A successful program would have to separate allowable rates from actual costs in order to encourage cost-saving innovations. Hospitals also have an incentive to spend as much as the budget allows for the year, since this would maintain the expenditure base upon which future rates would be calculated (Bauer, 1978; Worthington, 1976).

Perverse incentives have also been created by the unit of payment specified for reimbursement rates. By encouraging longer lengths of stay, the per diem rates employed in early rate-setting experiments reduced the average cost of a hospital day but led to greater total revenues for the hospital (Congressional Budget Office, 1977). Shifting the focus to the cost per case and total revenues would discourage such adjustments in utilization (Hellinger, 1978).

Some observers of the rate-setting process have criticized its emphasis on the determination of prices, rather than the development of new incentives to modify the decisionmaking and behavioral patterns within hospitals (Altman and Weiner, 1977). However, many of the essential features of rate-setting programs (e.g., the need for uniformity in hospital accounting and budget information, the submission of detailed cost and budget analyses, the fact of external review, the active participation of third-party payers and the planning agencies, and long-range capital planning) may serve to strengthen internal management and facilitate the setting of internal hospital priorities (Bauer, 1978).

Reimbursing physician services.—It is often argued that the prevailing, fee-for-service system of reimbursement has encouraged a lack of concern among physicians for the costliness and efficiency of the services they provide. One proposed solution is to confront physicians with a fee schedule that

constitutes the maximum allowable charge to the patient and is subject to modification only on the basis of negotiation with third-party payers (Glaser, 1976; Somers, 1978). Presumably, these prices would be established at a level that was equitable, but would encourage efficiency.

There is a possibility, however, that some physicians may circumvent such controls and attempt to maintain rising incomes by billing separately for items that were previously included in other charges, or even perhaps by expanding the volume of services (Holahan and Scanlon, 1977). A more appropriate test of the effectiveness of controls on physician fees is, therefore, the effect on total physician earnings and not simply on prices.

The Economic Stabilization Program (ESP) of the early 1970's has provided researchers with an opportunity to study the effects of regulating physician fees. Although the mechanism for limiting fees was essentially voluntary, with consumers and third-party payers reporting violations, the rate of increase in fees was cut approximately in half during the time of the program. The ESP was initiated in August of 1971, a year in which the average net income of physicians increased 8.3 percent (American Medical Association, 1977). This rate was reduced by half in the following year, and was even lower in 1973. According to data from the National Center for Health Statistics, there was no apparent acceleration in the growth of aggregate utilization in compensation for the price controls; the number of physician visits per person jumped 6.5 percent in 1971, but rose by less than 1 percent annually in subsequent ESP years. However, despite such evidence that physicians responded to the ESP with economic restraint, the growth of personal expenditures for physician services actually accelerated from 1972 to 1973 when measured in real terms (Part B, table 148). The reasons why aggregate expenditures on physician services were accelerating under these circumstances have not been clearly delineated.

More detailed analyses of the effect of the ESP on physician reimbursement patterns have been conducted using California Medicare data (Holahan et al., 1978; Hadley and Lee, 1978). During the first and second years of the ESP, when physician fees grew at half their earlier rate, the volume of physician services provided to the elderly in California rose about 4 times faster than the rate of Medicare enrollment increases. After controls were removed and inflation of fees resumed, the rate of increase in services was even less than the expansion of Medicare enrollments. This again raises the question of whether physicians maintain increases in their level of earnings, despite fixed fees, by expanding the volume of services.

The California study was hampered, however, by the lack of data on physician services that were privately reimbursed. There was some tentative evidence to suggest that the increase in services to the elderly represented a substitution of Medicare for private patients because of a narrowing of the differential between Medicare rates and private charges. Therefore, the increased volume of Medicare services under the ESP may not have been representative of an overall trend in physician utilization.

Canada's experience with uniform, fixed fees for physician services under national health insurance seems to demonstrate that limits on physician fees do tend to slow the growth of physicians' net earnings (Hadley, 1977). There may even be some reason for optimism with regard to the wider effects on total health expenditures. The notable increase in health care expenditures that was experienced in Canada after the introduction of national health insurance is not so alarming if the one-time improvement in coverage is isolated from the long-run impact of the program. In fact, when expenditures prior to national health insurance, during the transition to the program, and 1 year after its introduction are examined separately, the later period exhibits an even slower increase in real health care expenditures than occurred before universal coverage (Hadley, 1977).

In the past, public regulation of physician reimbursement in the United States has usually been restricted to public programs, in contrast to more universal controls. One of the dangers of an outright restriction on physician reimbursement levels that applies

to public medical care programs while leaving private charges unregulated is that doctors will refuse to accept such program payments as full reimbursement for their services or even to participate in service-benefit programs. When an attempt was made to reduce Medicare reimbursements, patients either paid additional charges out-of-pocket or were denied service (Gornick, 1976). Generally, the extent of physician participation in programs such as Medicare and Medicaid increases as the fee schedule does (Sloan and Steinwald, 1978). Therefore, policies to limit Medicare or Medicaid reimbursements may have an adverse effect on the accessibility of medical services to the low income population. However, willingness to participate in Medicaid is also related to the amount of "red tape" that physicians are required to handle (Cromwell, Mitchell, and Sloan, 1978). This suggests that as another way of securing greater physician participation, the government and other third-party payers might reduce the complexity and time costs of reimbursement procedures.

Other innovations in physician reimbursement have been proposed, in addition to setting maximum allowable fees. To reduce the financial incentives which presently reward the physician who selects more expensive treatment methods, the suggestion has been made to reimburse physicians for time they spend with patients at a higher rate than that allowed for lab tests and medical procedures. To pay physicians a salary is another alternative that would tend to eliminate the undesirable financial incentives influencing physicians and to restrict their autonomous control over expenditures (Redisch, 1978). However, there is evidence to suggest that physicians work fewer hours when they are paid on a salaried basis than when self-employed (Sloan, 1975; Schweitzer, 1978). The Europeans have enjoyed relative success with a system which employs a blend of capitation and fee-for-service reimbursement (Schweitzer, 1978; Redisch, 1978). Specialists generally work as the salaried employees of hospitals, and primary-care practitioners operate in office settings under a combination of capitation and fees for selected services. As discussed later in the chapter, the Health Maintenance Organization is another arrangement that seems to restructure the economic incentives of physicians in ways that encourage a greater degree of cost consciousness on their part.

Market Reform

Consumer cost sharing.—One of the strategies for instilling a greater level of cost consciousness in the health care marketplace is to introduce more deductibles, coinsurance, and copayments into the health insurance system. Research has shown that when consumers are immediately at risk for part of the cost of additional services, they choose to utilize fewer services than when fully insured (Newhouse and Phelps, 1976; Ginsburg and Manheim, 1973; Beck, 1974; Scitovsky and McCall, 1972).

The political feasibility of instituting a system of extensive cost sharing has been questioned, however, as a policy that is in direct contrast to the present trend towards universal first-dollar coverage. This problem was in evidence in the recent bargaining over the United Mine Workers' contract, when a proposal to replace the traditional system of complete health care coverage with a system that insured only expenses in excess of an annual family deductible caused a serious impasse in the negotiations. Cost sharing has not been used extensively in other countries either, where the trend toward first-dollar coverage has also been powerful (Blanpain et al., 1976; Altman and Weiner, 1977).

The political argument against cost sharing is based on a conviction that the level of out-of-pocket expenditure required to instill an effective level of cost consciousness in patients and providers would discourage lower income individuals from making appropriate use of needed services (Altman and Weiner, 1977; Marmor, 1977). Such problems could perhaps be avoided, however, in an income-related, cost-sharing arrangement or in a system that was directed at only "nonessential" services (Schweitzer, 1978; Stevens, 1976).

Experience with the 20–percent coinsurance provisions of Medicare, Part B, also

suggests that consumers are likely to subvert a cost-sharing system by purchasing additional, "front-end" insurance to cover these out-of-pocket costs (Stevens, 1976; Keeler, Morrow, and Newhouse, 1977). Therefore, it has been suggested that any national health insurance plan that includes cost sharing would have to reimburse medical care expenditures only after private insurance reimbursement was taken into account and cost-sharing provisions of national health insurance were satisfied (Keeler et al., 1977). The present tax laws, in fact, subsidize purchases of "front-end" health insurance, as they do all other types of health insurance. To make cost sharing an effective cost-containment strategy would require a change in policy that would put a stop to subsidizing all health insurance purchases, or perhaps even ban purchases of supplementary, "front-end" health insurance.[1]

Utilization review and PSRO.—Utilization review and the Professional Standards Review Organizations (PSRO's) represent an attempt on the part of the Federal government and other third-party payers to oversee more closely the quality and cost effectiveness of the services they pay for. Such programs are, in this sense, designed to provide more decisionmaking control for the parties that bear the financial responsibility for health care utilization.

The PSRO program, one form of utilization review, was mandated by the Social Security Act Amendments of 1972, and calls for groups of community physicians to review the medical services provided under Medicare, Medicaid, and the Maternal and Child Health programs. These services are to be reviewed for their compliance with professionally recognized standards of quality, and to assure that they are medically necessary and are provided in an economical fashion. Although it is too soon to draw any firm conclusions (Institute of Medicine, 1976a), the tentative evidence does not provide a very optimistic picture of the potential contribution of PSRO's to cost containment.

An evaluation of the performance of 18 out of 172 PSRO's from 1974 to 1976 suggests that the PSRO program compared with other utilization review systems did not produce any significant effect on overall hospital utilization or admission rates (Health Services Administration, 1977). The findings indicate that the program did not reduce utilization rates by the 1.6 to 2.1 percent required to recover even its administrative costs. This study was conducted at the beginning of the PSRO program and does not necessarily reflect the experience of well-established programs. Although other studies have sometimes shown that cost savings were associated with preadmission review programs in operation prior to the 1972 Social Security Amendments (Congressional Budget Office, 1977), the more recent programs, which have yet to be deemed cost effective, typically rely upon concurrent review, or review just after admission.

There are a number of features of PSRO programs which may lead to an overly conservative, rather than a cost-conscious definition of acceptable patterns of care. Rather than falsely accuse physicians of poor or inefficient practices, particularly in light of the difficulty of developing objective criteria that take into account the many variables that impinge upon utilization decisions, PSRO's are likely to identify only the most obvious errors in judgement (Schweitzer, 1978). The self-interest of providers who practice on a fee-for-service basis and participate in PSRO review also argues against the establishment of cost-oriented norms which might reduce Medicare and Medicaid reimbursements (Gosfield, 1975). Furthermore, patients are also likely to be upset by medical bills for which they are refused coverage (Blumstein, 1978). Despite this, there are no provisions in the PSRO program to compensate for these perverse financial incentives. Department of Health, Education, and Welfare funding is independent of review performance, and the savings generated by more cost-effective standards of care do not necessarily accrue to the community responsible for curtailing utilization (Blumstein, 1978).

Promoting alternative modes of care.—One of the most potentially significant strategies for

[1] A more extensive discussion of the issues involved in cost sharing is to be found in the previous edition of this volume (NCHS and NCHSR, 1977).

modifying the present structure of the health care marketplace is encouragement of the prepaid group practice mode of delivery, the Health Maintenance Organization (HMO). A number of national health insurance plans include incentives for HMO development (Davis, 1975; Roy, in press). In contrast to the fee-for-service system, HMO's provide a comprehensive set of health care services in return for a predetermined, prepaid charge for each person enrolled in the group. They consequently operate under strong financial incentives to economize on the use of the limited financial resources at their disposal. In addition to removing the expenditure-increasing financial incentives inherent in fee-for-service arrangements, the HMO approach also tends to reduce physician autonomy in controlling the utilization of the delivery system (Gaus, Cooper, and Hirschman, 1976; Redisch, 1978).

There is extensive empirical evidence to demonstrate that HMO's tend to experience lower hospital costs, but these favorable findings are not open to simple interpretation. Since they may reflect a bias in the types of patients who choose to enroll in HMO's, it is possible that the cost differentials estimated by various research studies would not apply to a system which covered the entire population (Mechanic, 1976; Riedel et al., 1975; Havighurst, 1975; Gaus, Cooper, and Hirschman, 1976; Schlenker and Ellwood, 1973). Other major questions have yet to be answered with regard to differences between fee-for-service and prepaid arrangements in the quality of care provided and with regard to the economic viability and consumer acceptance of the HMO concept.

Under more conventional financing arrangements, broader coverage of outpatient services would perhaps encourage their substitution for more expensive inpatient care. Yet, the evidence to suggest that such a substitution would in fact take place is sketchy. Despite some positive indications from analyses of the Medicare program and other U.S. data (Russell, 1973; Davis and Russell, 1972; Huang, 1975), the Canadian experience does not provide much support for this strategy. The substitution of extended care for hospital utilization in Canada did not save money; the savings from reductions in acute care per illness episode were lost to longer stays in extended care facilities (Evans, 1976). Evidence from Canada also supports the paradoxical conclusion that extended insurance coverage of ambulatory medical care may increase hospital utilization by promoting greater detection of medical problems. This may or may not represent a cost-effective improvement in the efficacy of treatment or in health outcomes (Lewis and Kearnes, 1970; Newhouse and Phelps, 1976; Freiburg and Scutchfield, 1976).

Other proposals.—A variety of other structural reforms have been proposed for which there is even less empirical information to report. One idea that has aroused substantial interest is to provide coverage under reimbursement programs for the cost of consulting a second specialist on the need for elective surgical procedures. Experimentation with one such voluntary "second opinion" program in New York City demonstrated that the initial recommendation for surgery was not confirmed by the second specialist approximately 30 percent of the time (McCarthy and Widmer, 1974). Although such statistics indicate a substantial level of disagreement among surgical providers, there is unfortunately no way to know whether the second opinion in such cases was any more valid than the first. Nor should contradictory second opinions necessarily be viewed as evidence that the subsequent costs of treating these patients were reduced. A followup to the New York study showed that 12 percent of the patients for whom surgery was not recommended by the second specialist had to have the operation at a later date; 5 percent had the surgery anyway; and 31 percent received some kind of medical treatment for their condition (McCarthy, Finkel, and Kamons, 1977).

Another problem that has created a great deal of discussion is the need for patients to be more actively involved in making utilization decisions and to have easier access to information about the costs and quality of the services they receive (Ingbar, 1978; National Commission on the Cost of Medical Care, 1978). Possible corrective strategies range from the development of consumer

education programs to such initiatives as those recently undertaken by the Federal Trade Commission to remove the professional ban on advertising of physician and optometric services.

Other reform proposals are directed at the physician's awareness and understanding of health care costs. For example, the National Commission on the Cost of Medical Care has urged that professional training include coursework in the economics of health care and that hospitals provide physicians with a list of prices for the inpatient services that they order on behalf of their patients (National Commission on the Cost of Medical Care, 1978).

In addition, the development of systematic technology assessment to address the effects of medical technologies on the cost and efficacy of care should be considered. It may be a means of providing information for objective decisionmaking on the benefits and costs of new and existing technologies.

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CHAPTER II

Prevention[a]

Recent estimates suggest that of the nearly 2 million deaths recorded each year perhaps as many as 1 in 8 are untimely and might have been prevented from occurring that year by appropriate intervention by the medical profession. Other causes of preventable deaths are largely outside the reach of medicine; deaths from violence, for example—shootings, poisonings, and motor vehicle accidents.

Preventable deaths include those among workers who die as a result of continued exposure to lethal substances at their places of work. Epidemiologists have found relationships between polluted air and polluted water and the prevalence of certain respiratory and gastrointestinal diseases. Evidence has been amassed that point to certain substances which people eat, drink, or inhale on a regular basis as dangerous to health. The finger has been pointed at lifestyles, that is, the way people live, as responsible for unnecessary untimely death from the number one killer, heart disease. Thus in addition to direct medical intervention, other preventive measures, such as reduction of environmental hazards and modification of lifestyles, could contribute to the avoidance of early and untimely deaths.

The application of preventive measures—whether direct medical intervention and the provision of preventive health services, reduction of environmental hazards, or modification of lifestyles—necessarily takes place within the general socioeconomic framework. In a classic study conducted under the auspices of the American Public Health Association, it was concluded that " . . . the most important next gain in mortality reduction is to be achieved through improved socioeconomic conditions . . . " (Kitagawa and Hauser, 1973). More recently, it has been shown that despite the increase in use of medical services by the poor the gap in health status between the poor and nonpoor as measured by morbidity, disability, and mortality has actually widened (Elinson, 1977; Lerner and Stutz, 1977; Wilson and White, 1977).

The purpose of this chapter is to display some quantitative data on the prevalence of some preventable health conditions and to contribute to the discussion as to the potential value of preventive efforts on the part of the individual and society for the health of the population. Although socioeconomic conditions may indeed be overriding, this chapter mainly will be devoted to the potential application of relatively direct preventive health measures.

Public health professionals distinguish among three kinds of preventive activities: primary, secondary, and tertiary. Primary

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NOTE: Unless otherwise noted, data are from the ongoing data-collection systems of the National Center for Health Statistics. In many instances the data have been published in the *Vital and Health Statistics* series.

prevention consists of activities that prevent a disease from occurring. Secondary prevention consists mainly of activities designed to detect disease before it has come to the attention of a physician for care. Such early detected disease is regarded as more readily treatable than disease that results in illness provoking a visit to a physician. Tertiary prevention refers mainly to the amelioration of the effects of established and recognized disease brought to the attention of a physician. For example, proper treatment of pneumonia often will prevent death. Tertiary prevention is what physicians do most of the time; it is essentially what most medical care is about. The role of medical care in this type of prevention is well recognized. Less attention has been given to primary and secondary prevention.

Primary prevention can take the form of a personal health service (e.g., immunization against poliomyelitis and measles), modifying the environment (e.g., installing a sewage system to prevent parasitic diseases and fluoridating community water supplies to prevent dental caries), or practicing healthful behavior (e.g., not smoking tobacco cigarettes to prevent lung cancer and wearing seat belts while driving to prevent fatal injuries in auto accidents). Secondary prevention includes the detection of correctible conditions even when there has been no complaint, such as vision tests for myopia among young school children or blood pressure tests for hypertension.

Among the reasons for the current rise of interest in prevention are (1) a sense of dismay about public expenditure for medical and hospital care and (2) an awareness of the limits of the efficacy of medical care.

Public expenditures for medical and hospital care arise in part because of the incidence of preventable illness. Failure of people to act preventively (i.e., to be responsible about everyday health behavior) results in unnecessary illness and becomes a drain on the resources of the health care system because of consequent costs. Thus, " . . . one man's freedom in health is another man's shackle in taxes and insurance premiums" (Knowles, 1977).

While the money costs are ascertainable, there is considerable difficulty in evaluating the impact of large-scale medical care programs on the health status of the population. There is general appreciation of the ministrations of medicine, in particular of one's own physician, but there is a spreading awareness of the limits of efficacy of medical care programs (McKeown, 1976 and 1978).

Many are disappointed with the measurable impact of social action programs, including health action programs, and with the difficult and time-consuming nature of evaluation. One emphasis now is on self-improvement, trying to get people to take more responsibility for their own health.

According to some advocates, "The practice of health education can no more be put off until 'all the data are in' than can the practice of medicine" (National Institutes of Health and the American College of Preventive Medicine, 1976a). According to others, however, "Preventive medicine contains more advocacy than reality and suffers from overpromotion in the face of underachievement" (Lewis, 1978). At the very least, it may be wise to ensure the development of evaluative evidence with respect to effectiveness and efficiency at the same time that large-scale and costly preventive programs are launched (Shapiro, 1977).

Apart from the question of adequate evidence as to effectiveness and efficiency, the resurgence of professional and lay interest in prevention has provoked some cautionary responses with respect to social priorities. For example, " . . . even if we could deliver on the uncertain promises of prevention, we have not the right to abandon those who are already ill and in need of care that they cannot obtain" (Eisenberg, 1977). In reawakening an interest in prevention of illness, we are cautioned against neglecting the unmet needs for medical care for those who are already ill. "Many of the reasons for the relatively poor health status of millions of Americans lie in their adherence to inappropriate lifestyles, but this does not absolve our society and the health professions of social responsibility for the consequences of such lifestyles" (Saward and Sorensen, 1978). Dr. John Knowles has acknowledged that while simple practices for healthy living " . . . can

be understood and observed by the majority of Americans, namely the white, well-educated and affluent middle class," for " . . . the large numbers of the impoverished . . . we must rely on social policies *first* in order to improve education, employment, civil rights, and economic levels, along with efforts to develop accessible health services" (Knowles, 1978).

The balance of this chapter is organized in two sections: (1) preventive potentials on a national level with respect to early and untimely deaths, unnecessary disability, and unnecessary visits to physicians and hospitals, and (2) case examples of specific diseases and conditions which have important preventability dimensions.

PREVENTION POTENTIALS: ACTIONS AND CONSEQUENCES

It is convenient to think of preventive action in terms of a triad of activities: personal health services, environmental control, and personal behavior. The intended consequences of such activities would be prevention of early death, disease, and disability and discomfort arising from disease. Besides improving the health status of the population, intended consequences of preventive activities could include a reduction in the need for and use of medical, dental, hospital, and other services.

Prevention of Early Deaths and Unnecessary Disability

What proportion of deaths are preventable? The death rate for 1976, of 8.9 deaths per 1,000 population, was the same as that recorded for 1975. The age-adjusted rate (i.e., what the level of mortality would be if there were no changes in the age composition of the population from year to year) reached 6.3 in 1976, the lowest level recorded in the United States (NCHS, 1978a).

Declining death rates suggest, but do not prove, that human intervention—whether through provision of health services, control of the environment, or modification of individual health behavior—may have prevented some early and untimely deaths.

In 1976, a Working Group on Preventable and Manageable Diseases led by Dr. David D. Rutstein, published a list of conditions associated with "unnecessary disease, disability, and untimely death" (Rutstein, 1976). One way of estimating what proportion of deaths might be prevented with the effective application of today's medical knowledge is to make some calculations based on Rutstein's list of "sentinel events."

A "sentinel death" is one whose cause raises the question of whether it could have been prevented by medical intervention. Sentinel deaths include deaths from such conditions as tuberculosis, throat and lung cancer, myeloid leukemia, chronic bronchitis and emphysema, and influenza and pneumonia, especially among people under 50 years of age. They also include deaths of infants under 1 year of age.

To what extent it is practical to reduce sentinel deaths by medical intervention remains to be seen. Many deaths from diseases which are deemed preventable by the practice of preventive health habits, for example atherosclerosis, are not included in Rutstein's list of sentinel events. The proportion of deaths that are untimely would be considerably larger if certain preventable diseases not on Rutstein's list of sentinel events were included.

Sentinel deaths as a proportion of total annual deaths have remained fairly constant in recent years—12.4 percent of all deaths in 1970, and 12.9 percent, or 246,592 deaths, in 1976.[1] If prevention of sentinel deaths is taken as a measure of the quality of medical care as advocated by the Rutstein group, then there would be no appreciable change in this measure of overall quality of medical care for the Nation as a whole.

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[1] An earlier estimate of 14 percent for sentinel deaths as a proportion of all deaths from the 1968–1971 period included all deaths from pneumonia, not only those occurring before age 50, and several other modifications (Adler, 1978). This estimate has since been corrected to 11.2 percent taking into account the qualifying notes presented by Rutstein et al. in their revised tables (Rutstein, 1976; Rutstein, 1977; Adler, 1978).

Between 1970 and 1976, sentinel deaths declined for children and younger adults under 45 years of age and increased for older adults, 45 years of age and over. This was true for the relatively frequent causes of sentinel deaths: influenza, pneumonia, bronchitis, and lung cancer, as well as for all sentinel deaths considered together. A relatively frequent cause of a sentinel death is taken here to mean a condition that accounts for 1 percent or more of all deaths (tables A and B).

Deaths attributable to some sentinel conditions declined between 1970 and 1976, while others increased. Deaths from acute respiratory diseases for persons under 50 years of age declined, as did infant mortality. Mortality from cancer of the trachea, bronchus, and lung rose from 32.1 in 1970 to 40.3 in 1976. Deaths from chronic diseases of the lung and other chronic respiratory diseases increased. Mortality from chronic bronchitis, emphysema, and chronic obstructive lung disease rose from 15.8 in 1970 to 20.1 in 1976.

Sentinel events are not only causes of untimely death but are also causes of disability and the use of medical and hospital services. With respect to disability, calculations based on the Rutstein list suggest that approximately 4 percent of all disability days, as estimated by the national Health Interview Survey, are associated with sentinel events. (Disability days according to the Health Interview Survey cover all days of restricted activity attributable to illness, including days in

Table A. Sentinel deaths as a percent of all deaths, according to frequency of specific cause of death: United States, 1970 and 1976

Frequency	Sentinel deaths	
	1970	1976
	Percent of all deaths	
All sentinel deaths	12.4	12.9
Relatively frequent, including lung cancer	8.1	8.5
Less frequent, including tuberculosis	3.7	3.9
Infrequent, including measles	0.4	0.4
Relatively rare, including marasmus	0.1	0.1

NOTE: The categories of frequency are defined as follows: *relatively frequent* includes causes accounting for 1.0 percent or more of all deaths; *less frequent* includes causes accounting for at least 0.1 percent but under 1.0 percent of all deaths; *infrequent* includes causes accounting for less than 0.1 percent of all deaths but at least 10 deaths; and *relatively rare* includes causes accounting for fewer than 10 deaths.

SOURCE: Division of Analysis, National Center for Health Statistics: Selected data.

Table B. Relatively frequent[1] sentinel deaths, according to age and cause of death: United States, 1970 and 1976

Cause of death	Relatively frequent sentinel deaths									
	All ages		1-14 years		15-44 years		45-64 years		65 years and over	
	1970	1976	1970	1976	1970	1976	1970	1976	1970	1976
	Percent of all deaths									
All relatively frequent causes	9.7	9.7	7.5	4.7	4.6	3.9	8.7	11.0	4.6	6.3
Acute respiratory conditions, influenza, pneumonia, and bronchitis (under 50 years of age)	0.8	0.4	7.3	4.6	2.5	1.9	0.4	0.3	...	...
Chronic bronchitis, emphysema, and chronic obstructive lung disease	1.7	2.2	0.1	0.1	0.3	0.3	1.9	2.3	1.9	2.6
Malignant neoplasms of trachea, lung, or bronchus	3.4	4.5	0.1	0.0	1.8	1.8	6.4	8.5	2.7	3.7
All deaths under 1 year of age	3.9	2.5	...	...	...	...	...	...	...	...

[1] Relatively frequent includes causes accounting for one percent or more of all deaths, except for the category acute respiratory conditions, influenza, pneumonia, and bronchitis which is a sentinel condition for people under 50 years of age. The categories of causes of death used here are based on *Eighth Revision International Classification of Diseases, Adapted for Use in the United States* and are as follows: Acute respiratory conditions, influenza, pneumonia, and bronchitis include ICDA codes 460-466, 470-474, 480-486, and 490; chronic bronchitis, emphysema, and chronic obstructive lung disease include ICDA codes 491-492 and 519.3, and malignant neoplasms of trachea, bronchus, and lung include ICDA code 162.

SOURCE: Division of Analysis, National Center for Health Statistics: Selected data.

bed and days lost from work.) Sentinel events account for about 2 percent of hospital discharges and 3 percent of hospital days and 3 percent of visits to physicians' offices. These estimates of the impact of sentinel events on utilization of health services and disability are underestimates, as is the case with the proportion of untimely deaths. They do not include the impact of many "preventable" instances of conditions, such as certain cardiovascular conditions, that are not on Rutstein's list.

Preventive Health Behavior: Lifestyles

Specific individual behaviors, presumably subject to individual control, have been indicted as leading to disease and early death. Smoking tobacco cigarettes is the leading example of such harmful behaviors. Other individual behaviors, also subject to individual control, have been promoted as conducive to healthy living, disease prevention, and long life. The prime examples of these behaviors are good nutrition and regular exercise.

The evidence on which the advocacy of preventive health behaviors is based is extremely varied, ranging from conclusive, as in the detrimental effects of long continued heavy cigarette smoking, to tenuous, as in the negative impact on health of snacking between meals. Although the evidence bearing on preventive health behavior cannot be reviewed in this chapter, the relevance of some preventive health behavior will be alluded to in the case examples of specific preventable health conditions.

What will be presented are data on the extent of practice of those preventive health behaviors for which reasonably reliable statistics based on national samples of the population are available. A study on a national sample is now underway to investigate the health consequences of preventive behaviors, as was done for seven specific behaviors in one county in California (Belloc, 1973; Belloc, 1976; Camacho and Wiley, 1977).

Diet.—Although new knowledge about nutrition and its relationship to health and the prevention of disease continues to grow, many important questions still cannot be answered with confidence. Despite this, some experts feel that sufficient knowledge already exists to urge changes toward more "prudent" dietary practices for most people. Such practices include, for example, the increased consumption of fresh fruit and vegetables and the decreased consumption of fats (especially saturated fat), refined sugars, and other carbohydrates. While the impact of prudent diets on morbidity and mortality is not precisely known, there is nevertheless advocacy for change in the eating habits of Americans.

There are as yet no authoritative quantitative statements as to what proportion of Americans are eating prudent diets. There are, however, national data on patterns of food intake that provide a basis for observing national trends in the future. These data on food consumption provide valuable information on *quantity* of food intake, but little systematic information is available on a national basis on personal food consumption behavior in terms of the nutritional *quality* of the food.

Information on the usual pattern of food intake was obtained by means of the national Health and Nutrition Examination Survey (NCHS, 1978b). This survey reported that:[2]

- More than 4 out of 5 people (84 percent) of all ages (1–74 years of age) eat meat or poultry at least once a day.
- Nearly half (45 percent) of people of all ages seldom or never eat fish or shellfish. Less than 1 percent eat fish or shellfish daily.
- Nine out of ten (90 percent) people of all ages eat fruit and vegetables daily.
- One-third of adults 45–74 years of age seldom or never drink whole milk.
- Ninety percent of children under 12 years of age eat cereal at least once a week; for adolescents, 12–17 years of age, the percentage drops to 69 percent. Less than half (46 percent) of

[2] Nutritional data cited are from a report on white and black people only, exclusive of other races.

younger adults (18–44 years of age) eat cereal. Cereal eating rises among older adults (54 percent among adults 45–64 years of age; and 67 percent among older adults, 65–74 years of age).

Exercise.—Half of American adults reported doing regular exercise, according to the Health Interview Survey of 1975. One in three walked as a regular exercise. One in seven did calisthenics; one in eight swam; and one in nine bicycled. One in twenty jogged. One in thirty did weight lifting. Younger adults were more likely to report doing regular exercise than older adults; women as likely as men. Swimming, bowling, and tennis were the most popular participant sports. In all sports, men were more likely to report participation than women.

In order to evaluate the role of exercise in health, it would be useful to know to what extent physical activity—apart from exercise—is an integral part of ordinary activities of daily life, including work. A majority (57 percent) of people 12–74 years of age reported that their recreational activity involved "much exercise" or that aside from recreation, they were physically "very active" in their usual day (Part B, table 45).

Associations have been found in both experimental and epidemiologic studies between lack of physical activity and increased frequency of occurrence of sudden death, myocardial infarction and coronary heart disease. This association has led a number of health professionals to encourage increased physical activity as both a preventive as well as a health enhancing measure (Heinzelman and Bagley, 1970; Durbeck et al., 1972).

Use of common drug-like substances: cigarettes, coffee, aspirin, sleeping pills, and alcoholic beverages.—There is concern about the use of illicit drugs and the relationship of such use to personal health status. More recently, attention has been directed toward the health effects of more common drug-like substances such as aspirin, sleeping pills, cigarettes, coffee, and alcoholic beverages.

There has been a marked reduction over the past 10 years in the proportion of the adult population who smoke cigarettes, largely as a result of the increased awareness of the relationship between cigarette smoking and health. Data from the 1976 Health Interview Survey show that 42 percent of men and 32 percent of the women smoked cigarettes, compared with 52 and 34 percent, respectively, in 1965 (Part B, tables 47–49). Current smokers comprised nearly half of those with some high school education, but only a quarter of those who had completed college. Over a third of people who had once smoked had stopped smoking; two-thirds of the remaining smokers had tried to quit. Older people were more successful in quitting smoking than younger people; men were more successful than women.

Some epidemiological studies have found adverse health characteristics among excessive coffee drinkers, although other studies have not shown such findings. Data from the national Health Interview Survey, indicate that with respect to drinking coffee:

- Four out of five people 20 years of age and over drink coffee. (Additional data on coffee drinking can be found in Part B, table 51).
- Coffee drinkers average 3 1/3 cups a day.
- Coffee drinking is most popular in the middle adult years (35–55 years of age).
- Cigarette smoking is positively related to coffee drinking.

One of the most commonly used drugs is aspirin. Estimates from the Health Interview Survey indicate that about a quarter of the population uses aspirin regularly, that is, once a week or more (Part B, table 51). Regular aspirin use rises with age, with women more likely to use aspirin regularly than men. Occasional use of aspirin declines with age for both men and women, although regular use increases with age. There is little or no relationship between the taking of aspirin and drinking coffee or smoking cigarettes.

The Drug Enforcement Administration and the National Institute on Drug Abuse (NIDA) estimated that there were more than twice as many hospital emergency room visits

attributable to aspirin as to methadone between May 1976 and April 1977. (For data on emergency room visits for drug abuse, see Part B, table 95.) For the same period, NIDA estimated 400 deaths from aspirin and 300 from methadone (NIDA, 1978).

People who use aspirin are also more likely to use sleeping pills. One person in twenty uses sleeping pills regularly, that is, once a week or more. Older people are much more likely to use sleeping pills than younger people. Among people 75 years of age or over 12 percent use sleeping pills regularly; among people 20–24 years of age, only 2 percent use sleeping pills regularly. Women are more likely to use sleeping pills than men. Most people use sleeping pills under a doctor's advice. There is no relationship between the use of sleeping pills or taking aspirin and drinking coffee or smoking cigarettes.

Most Americans drink alcoholic beverages, but not every day. Men are more likely to drink about every day than women; and to drink more. About one-quarter of men 35–54 years of age drink about every day. Less than 1 woman in 10 in the same age group drink about every day.

Men not only drink more often than women, but drink more when they drink. Among men drinkers 18–64 years of age, more than 10 percent usually have more than five drinks a day. Among women drinkers of the same ages, 2–3 percent have more than five drinks a day. (Additional data on drinking can be found in Part B, table 50.)

Preventive Health Behavior: Use of Preventive Medical Services

Preventive health behavior includes not only specified activities of daily living, such as diet and exercise, but also judicious use of medical services for the purpose of preventing disease, disability, and untimely death. The classical preventive medical maneuver is immunization against such communicable diseases as diphtheria, smallpox, poliomyelitis and, more recently, measles. Most immunization is done on preschool children; this is discussed in the chapter entitled Children and Youth: Health Status and Use of Health Services.

Less dramatic than immunization in their effects are the taking of various screening tests and visits to a doctor for examinations when one is not ill. While 3 out of 4 people see a doctor during any given year, 1 in 4 do not, even for a routine checkup. About 15 percent of the population report that they are without a regular source of care. People without a regular source of care are more likely to be members of low income families.

Many of those who see a doctor in a given year do not receive tests designed to detect asymptomatic chronic disease at an early stage. For example, one-third (36 percent) of all people 40 years of age and over have never had an electrocardiogram (EKG); and two-fifths (41 percent) of the people in this age group have never had a glaucoma test. Among adults 17 years of age and over, 1 in 8 (13 percent) have never had a chest X-ray.

Women are less likely to have had an electrocardiogram than men. One woman in five (17 years of age and over) has never had a pap smear test. Younger women (under 25 years of age) and older women (65 years of age and over) are least likely to have had pap smear tests and least likely also to have had a breast examination. One out of four women who subsequently have live births do not see a doctor during the first 3 months of pregnancy. Younger women (under 20 years of age) are less likely to see a physician during pregnancy than are women who are 20–34 years of age.

Not seeing a doctor in a given year is related in some degree to accessibility. An estimated 10 percent of people experienced difficulty in getting to see a doctor. Most of the time it was because they could not get an appointment when they needed it; sometimes because no doctor was available. For others, the reasons for not seeing a doctor when needed were matters of convenience, transportation, or cost. Presumably, people who would like to see a physician for less urgent reasons, such as for preventive tests or counseling would experience even more difficulty.

There are differing opinions in the current practice of medicine on the frequency with which certain tests should be administered as

a part of a general physical examination. While the merits of the differing opinions will not be discussed here, it was found in a recent Health and Nutrition Examination Survey that at the last general medical examination other than for illness, 62 percent of the patients did not have a cardiogram, 46 percent did not have a chest X-ray, 50 percent did not have a rectal exam, 22 percent did not have a blood test, 16 percent did not have a urinalysis, and 12 percent did not have their blood pressure checked. People are most unlikely to get vision and hearing tests at a general medical examination. At the last general medical examination, 68 percent did not have vision tests and 76 percent did not have hearing tests. Forty percent of adults have never had their hearing tested. Ten percent claim they have never gotten any shots, immunizations or vaccinations to prevent any illness.

Aside from specific tests or medical examinations, other preventive measures consist of counseling people about diseases they do have and about diseases they do not yet have. It is instructive to note that a third of the people with hypertension have not talked to their doctor about it for at least a year.

Half of the people (52 percent) do not see a dentist in a given year. One-fifth of the people 5 years of age and over have not seen a dentist for a least 5 years.

CASE EXAMPLES[3]

As a group, the case examples that follow illustrate both the potential importance of preventive programs in lessening significant causes of morbidity, mortality, and disability, and the value of adequate health statistics in planning and evaluating preventive programs. In describing the range of strategies that can be designed to achieve prevention goals, the need for new or different kinds of statistical information often can be identified.

Prevention strategies for many diseases are complex, because the diseases themselves have complex origins, and they fall into three major, but interacting, arenas for intervention: the environment (including the physical, socioeconomic, and family), individual behavior, and personal health services. In general, better statistics are available on the availability and utilization of some preventive health services than on the environmental and behavioral factors affecting health. Environmental factors have only recently begun to be identified and monitored with any regularity, and many still are not; measuring behavioral factors often relies on self-reporting.

The seven case examples discussed are: childhood diseases preventable through immunization, disorders preventable through environmental actions (emphasizing dental caries), cardiovascular diseases, occupation-related diseases, diseases related to cigarette smoking, genetic disorders, and accidents and violence.

These case examples are not meant to exhaust the universe of possible areas of preventive activity. Rather, they show how some of the more common diseases and disorders can be viewed from a preventive perspective, based on the current level of knowledge in three key areas.[4]

- Characteristics of the disease, injury, or disorder—is it sufficiently important in incidence, prevalence, or seriousness to warrant preventive action as part of public policy? And, is it preventable? In whole or in part?
- Are safe, effective, preventive measures currently available? Do health benefits outweigh any risks?

[3] All of the case examples, except the one on violence, were originally prepared by Vicki Kalmar, M.P.H., and Elena O. Nightingale, M.D., Ph.D., Staff of the Institute of Medicine, National Academy of Sciences, under contract with the National Center for Health Statistics. Because of space limitations only adapted excerpts of the original case examples could be presented here. Complete texts of the case examples with references are available upon request from the Division of Analysis, National Center for Health Statistics.

[4] The source of these questions is the Report of the Task Force on Theory, Practice, and Application of Prevention in Personal Health Services, Lester Breslow, chairman, in *Preventive Medicine USA*, New York: Prodist, 1976. The task force derived these questions from several other works (Wilson and Jungner, 1968; McKeown, 1968; WHO, 1971; Cochrane and Holland, 1971; and Whitby, 1974).

- Is application of preventive measures feasible—in sociopolitical, economic, and technologic terms? Where do barriers to implementing programs lie—in the environmental, behavioral, or health services sectors?

Preventive programs like most public policy action must be designed in the absence of complete information. The issues raised apply to virtually all preventive programs; they are linked to specific case examples only to provide the reader with a more meaningful context in which to consider them. Throughout, an attempt is made to provide representative references for readers who would like more detailed information.

Case Example 1. Childhood Diseases Preventable Through Immunizations

Childhood diseases preventable through immunizations can be of high incidence in unprotected populations, with serious consequences (e.g., a fetus harmed by a mother's infection with rubella early in pregnancy). Relatively safe, efficacious, and cost-effective preventive measures are available.

Immunization against childhood diseases is often considered one of preventive medicine's most indisputable successes. However, as of 1976, a substantial proportion—about 40 percent—of the Nation's children 1–4 years of age remained incompletely immunized against measles, rubella, diphtheria, tetanus, pertussis (whooping cough), and poliomyelitis, and less than half of young children were immunized against mumps (Part B, table 36). Underimmunization, except at the youngest age level, occurred less frequently in white children than in other racial groups (Part B, table 37). The lowest rates of immunization and highest rates of infection were found among children living in poverty areas, although those living in poverty areas outside the central cities were somewhat more likely to have been adequately immunized (Part B, table 38).

Currently, efforts are being made to increase parental awareness about immunizations and to involve government-funded programs, such as Medicaid and Head Start, that serve younger children.

Immunization against influenza is still considered an important national public health effort. This program faces continuing problems, however, primarily because of the periodic changes that occur in influenza virus strains, necessitating production and testing of new vaccines, often on relatively short notice.

Planning for any kind of preventive programs, including immunization programs, requires consideration of possible side-effects arising from either the preventive method, such as an immunizing agent or X-ray screening technique, or the service program that implements it. A recent example of a preventive measure that had unanticipated negative side effects was use of the swine influenza vaccine, associated with Guillain-Barré Syndrome (one case per 100,000 vaccinees).

Side-effects, although an important consideration, do not preclude the use or acceptance of a preventive measure, if the disease to be prevented is sufficiently severe or the risk of acquiring it sufficiently high. For example, the risk associated with smallpox vaccine was acceptable as long as the chance of acquiring the disease was great enough. As recently as 11 years ago, there were an estimated 10 to 15 million cases of smallpox in 44 countries, including 33 countries where smallpox was considered endemic (Boffey, 1977). Now, with apparent worldwide eradication of smallpox, the risks of contracting the disease are so slim that, except for travelers to a few areas, routine vaccination has been deemed too risky and has been abandoned (Fulginiti, 1976).

In contrast, poliomyelitis immunization with live-virus vaccine continues even though there is a slight risk to vaccinees and their contacts of contracting vaccine-associated paralytic poliomyelitis. The live-virus vaccine provides protection for an inadequately immunized population, like that of the United States, which is still exposed to infection by wild polioviruses either persisting in the domestic population or imported from countries where the disease is prevalent (Institute of Medicine, 1977; CDC, 1977a).

Based on the experience with side-effects from poliomyelitis and influenza vaccines, many public health officials have suggested that a national policy on liability for injuries because of immunizations would both protect the public and help assure the continued production of needed immunizing agents (Institute of Medicine, 1977; Bernzweig, 1977).

Case Example 2. Dental Caries—A Health Problem With an Environmental Approach to Prevention

Dental caries are of high prevalence. A safe, efficacious, and cost-effective preventive measure (drinking fluoridated water) is available. By and large, implementation of the preventive measure has proved feasible.

Dental caries remains a problem affecting virtually all Americans. Among white children 6–11 years of age, the average number of decayed, missing and filled (DMF) permanent teeth appears to have increased slightly between the periods 1963–65 and 1971–73. The DMF statistics among black children have increased more appreciably and now are about the same as those for white children.

In 1971, about 4 percent of adults 25–34 years of age had no natural teeth. Among those 65–74 years of age, 45 percent had lost all their natural teeth (NCHS, 1974). In the older age groups, the primary cause of tooth loss was periodontal disease, but among young people, dental caries was a significant contributor to tooth loss.

One of the most effective caries prevention strategies is the fluoridation of drinking water supplies. In a 1975 survey, the Center for Disease Control found that more than 105 million U.S. citizens were residing in communities that had water supplies with an optimal or higher level of fluoride (CDC, 1977b). This was 49.4 percent of the total U.S. population, and 59.3 percent of the population served by public water supplies. In 1967, only 41.5 percent of the total population received fluoridated drinking water (Part B, table 52).

Fluoride to reduce dental caries incidence can be administered through the drinking water supply, tablets, or mouth rinses, or it can be professionally applied directly to the teeth. Dental experts believe that fluoridation of public drinking water supplies is the preferable procedure. "Community fluoridation is not only effective, safe, and economical, it also approaches being an ideal public health measure because little effort on the part of the individual is required to produce beneficial results" (Driscoll, 1974). Community water fluoridation programs cost from 10 to 40 cents annually for each person served, but can reduce the amount of tooth decay in school-age children by as much as 65 percent, decrease the loss of first permanent molars among children 12–14 years of age by approximately 75 percent, and increase the number of caries-free children 12–14 years of age 6-fold, according to dental experts (Walsh, 1977).

Fluoride mouth rinse programs, which depend on continued participation, may also be effective in some situations. Usually implemented in schools, the effectiveness of fluoride mouth rinses is estimated as providing 30–50 percent protection against new caries.

Fluoridation programs depend on community interest and support for initial adoption as well as monitoring to ensure continued effectiveness. Despite its benefits, fluoridation has not been accepted universally. A Center for Disease Control study compared total death rates for all causes and death rates for cancer in cities with and without fluoridated water. No evidence of a harmful effect of fluoridation was found (Erickson, 1978).

Effective as fluoridation is in reducing the incidence of caries, a comprehensive prevention strategy would also stress the importance of diet in preventing tooth decay, particularly the reduction of sugar consumption (Larson, 1977).

Because the range of possible preventive activities is so broad, a number of government agencies or departments at various levels can be involved in prevention programs, creating problems of coordination.

Most Federal prevention and other public health initiatives require implementation at the local level. The active partnership that used to characterize relations among these levels of responsibility, has, in large part, been allowed to languish. Only recently has the need for renewed emphasis on strong local health departments begun to be expressed in various national forums (Institute of Medicine, 1978).

Case Example 3. Cardiovascular Diseases

As leading causes of death, disability, and economic burden, cardiovascular diseases constitute major targets for prevention (Rice, 1976). Recent declines in death rates from cardiovascular diseases raise intriguing questions as to the relative contributions of medical care and technology and preventive health behavior.

The hypertensive disease death rate has been declining the most rapidly of all the cardiovascular disease death categories. High blood pressure in some people is aggravated by such factors as obesity and salt intake. A large number of people cannot control their high blood pressure through diet and weight reduction and must have medical treatment. Reduction of blood pressure by behavioral techniques, including relaxation therapy, is also under investigation.

Coronary heart disease is the most serious of all the cardiovascular diseases in terms of premature deaths, disability, and days spent in the hospital. The major independent risk factors of this disease are elevated serum cholesterol (particularly elevated low-density lipoprotein cholesterol, C–LDL), cigarette smoking, and high blood pressure. Other factors that interact with these major risk factors to further increase risk are diabetes mellitus and oral contraceptive use by women who also smoke cigarettes. For some individuals, risk factors for coronary heart disease may include physical inactivity and personality type.

The recent accelerated decline in coronary heart disease death rates has been accompanied by behavioral changes that may reduce cardiovascular disease risk as well as improvements in medical care. Research is ongoing to clarify these relationships (Rose et al., 1977). Among the cardiovascular disease risk factors that may have declined in the U.S. population are two of the more important ones—uncontrolled hypertension and cigarette smoking among some age-sex groups—and two still relatively controversial ones—dietary consumption of saturated fats and physical inactivity.[5]

Maintaining adherence to a lifestyle and medication regimen that will control hypertension can be difficult, because the treatment often seems overly strict or has side effects that are more apparent to the patient than the risk imposed by high blood pressure, which is often symptomless. Some data indicate that doctors and their patients are becoming more aware of the importance of hypertension control (NCHS, 1977; Stamler et al., 1976).

Eventually, sophisticated, individually-tailored preventive programs may be designed (Salel et al., 1977) but in the meantime, community-based programs appear to be a reasonable approach (Margolis, 1977).

The Stanford Heart Disease Prevention Program has demonstrated increased community awareness of cardiovascular disease risk factors, changes in target behaviors, such as cigarette smoking and eating patterns, and a resultant decrease in measured cardiovascular risk factors, including lower plasma-cholesterol concentration and reduced systolic blood pressure. The Stanford researchers have found an "orderly relationship among the knowledge of risk, the changes in behavior, and the physiologic changes in risk at the end of the 2 years of intervention" (Maccoby et al., 1977; Farquhar et al., 1977). But a final conclusion to this study awaits the

[5] Recent statistical analyses performed by the Division of Analysis, National Center for Health Statistics suggest that explanations for most of the decline in coronary heart disease mortality relate to changes in behavior other than smoking (Kleinman, 1978). Footnote added by Elinson and Wilson.

demonstration of a decline in cardiovascular mortality.

A study begun in 1972 in North Karelia, Finland—which had the world's highest coronary heart disease rates—reports success in reducing the risk factors for cardiovascular disease. More importantly, it reports decreases in the incidence of strokes and heart attacks with a trend away from more severe "definite" infarct cases toward less severe "possible" cases. In the first 4½ years of the Finnish program, the percentage of cigarette smokers declined, consumption of dietary fats decreased, and the average blood pressure among hypertensive individuals was reduced (Puska, and Mustanieni, 1975; Puska et al., 1977). According to one reviewer's evaluation, "In North Karelia the sharp decline in incidence of strokes is impressive, and the suggestion of decline in death from myocardial infarction is promising; but careful evaluation must await comparison with experience in the reference county" (Breslow, 1978). Thus, the results are, so far, regarded as tentative.

A feature of cardiovascular diseases and many other multifactorial diseases that complicates the design of prevention programs is that they usually develop over a long period of time. For this reason, achieving and sustaining motivation to reduce risk from factors as smoking, dietary habits, or reactions to stressful situations is difficult. In contrast, the "benefits" of unhealthful habits are often immediate gratification, fulfillment of the desire for certain unhealthful foods or cigarettes. Powerful stimuli in the social environment, including advertising, promote unhealthy choices.

Prospective epidemiologic studies would enable more exact definition of causative factors and might provide a more persuasive patient education tool. Such studies have been extremely difficult to conduct because of the wide range of behaviors and the number of environmental influences that would have to be controlled, the rudimentary understanding about some other important risk factors, including genetic ones, and also because of the long latent period that makes followup so difficult.

Case Example 4. Occupation-Related Diseases

The incidence and prevalence rates for occupation-related diseases (particularly cancers, chronic lung disorders, sterility, birth defects, central nervous system disorders, neuroses and mental disorders, and deafness) are high for some occupational groups. These diseases are to a large extent preventable through the control of workers' exposure to hazardous chemical or physical agents and through the improvement of work processes. Implementation of prevention programs in these areas poses significant feasibility problems.

Estimates place the number of deaths each year from occupational diseases at 100,000, with 390,000 new cases of occupational diseases recognized (Comptroller General, Report to the Congress, 1977). The true extent of occupational diseases is probably considerably larger, although the exact incidence and prevalence are unknown, because the occupational etiology of many diseases and deaths is either unrecognized or, if suspected, unreported (National Institutes of Health and the American College of Preventive Medicine, 1976b; Peters, 1978).

Occupational exposures to toxic chemicals and physical hazards (e.g., noise, radiation, vibration) can produce long-term damage to the brain and other critical organs, carcinogenesis, mutagenesis (i.e., genetic changes potentially transmissable to future generations), and teratogenesis (i.e., birth defects that affect only a single generation). The effects on reproductive capacity can be diverse—stillbirths, spontaneous abortions, reduced fertility, and sterility (Hunt, 1976; Bingham, 1976; Infante et al., 1976).

Rates of cancers for various occupational groups have been compared with rates for corresponding age and racial groups, with the general population or with rates for other occupational groups, in order to obtain estimates of relative risk. For example:

- Asbestos and textile workers with 20 years in the industry have more than 4 times the risk of respiratory system

cancer as the general population (Nicholson, 1976).

- Workers with 5 years or more experience in some coke-oven jobs have a risk of lung cancer almost 11 times that of other steelworkers (Redmond, Strobino, and Cypress, 1976).
- Rubber workers 40–64 years of age are at 3 times greater risk of dying from lymphatic leukemia than the general male population (McMichael, Andjelkovic, and Tyroler, 1976).
- Atomic energy workers have a death rate from cancer of the pancreas that is more than twice that of a comparable population (Kneale, Stewart, and Mancuso, 1978).

Unfortunately, statistical data about exposure to hazardous physical environments for various occupations are hard to obtain. Records of intensity, duration, and combinations of exposures are usually not available. Federal legislation has been proposed to test the feasibility of relating occupational exposure and subsequent incidence of cancer. The National Death Index being developed by the National Center for Health Statistics will provide a new capability for assessing mortality risks of special populations such as workers exposed to hazardous environments. In any event, more analysis of existing mortality and health data by occupation should be informative.

The lack of adequate data on occupational diseases may be one reason that effective control efforts have lagged. The patterns of disease that are being noted among populations living in the vicinity of certain manufacturing plants (Brady et al., 1977), among families of workers in certain industries (Baker et al., 1977; CDC, 1977c), and in special circumstances where intense nonindustrial exposures occur (Bekesi et al., 1978) indicate that greater understanding of occupational hazards could benefit a population far greater than the working population.

Control of occupational hazards can be approached through modifications directed at the environment and the work process, modifications directed at the worker, or some combination of these. Modification of the work environment—the manufacturing plant, processes and materials used—is probably the most effective.

Modifications directed at the worker can be achieved by providing special protective gear; allowing a maximum daily, weekly, or annual exposure; identifying high-risk individuals; maintaining surveillance of body levels of substances and rotating workers out of an environment producing excessive exposures; or administering chelating substances—chemicals capable of removing other, presumably more hazardous, chemicals from body tissues. Unfortunately, personal protective equipment is often uncomfortable and otherwise inconvenient for workers to use. Differential pay for jobs deemed more hazardous, or allowing overtime work in hazardous jobs, requires employees to choose between long-term risks to health and immediate financial benefits. Similarly, the concentration of hazardous industries in a geographic area, or their location in otherwise economically depressed communities, provides little choice for workers.

The Occupational Safety and Health Act of 1970 mandated that workers be protected from workplace hazards, but implementation of the law has been inadequate. The Federal regulatory process, through the Occupational Safety and Health Administration, has been ineffective because its enforcement power is weak, fines have been low, and there has been an emphasis on safety rather than health violations. A special task force on prevention efforts relating to environmental health concluded in 1976 that the Act had "not yet noticeably affected occupational health in the United States" (National Institutes of Health and the American College of Preventive Medicine, 1976b). Currently, a Federal Interagency Task Force on Workplace Safety and Health is investigating the state of knowledge in this area and will be making recommendations for future programs and research.

Limited as these preventive efforts have been, preventing the adverse mental health consequences of work has been an even more neglected area, despite classic studies showing the deleterious mental health effects of occupational stress (Zaleznik, Ondrack, and Silver,

1970; DHEW, 1973). In one industry, at least 40 percent of some categories of workers showed symptoms of mental health problems, the key correlate of which was job satisfaction (Kornhauser, 1965).

Some employers have initiated promising job redesign techniques, giving workers having more control over their work and more variety in the tasks to be performed (DHEW, 1973). These employers have recognized opportunities to reduce job dissatisfaction and some of its costly consequences—absenteeism, employee turnover, alcoholism and drug abuse among workers, waste of materials, industrial sabotage and plant shutdowns—as well as to increase productivity. Such efforts are still unusual.

Case Example 5. Diseases Related to Cigarette Smoking

Prevention of cigarette smoking may be the most promising action that can be taken to reduce the incidence of serious chronic disease and its consequences of disability and untimely death.

Lung cancer and other diseases resulting from cigarette smoking are of high incidence and seriousness. For lung cancer, the vast majority of cases are fatal in a short period of time. Avoidance of cigarette smoking is a safe, effective preventive measure, but poses significant feasibility problems related to individual behavior choice and national economic policies.

According to the World Health Organization, "smoking-related diseases are such important causes of disability and premature death in developed countries that the control of cigarette smoking could do more to improve health and prolong life in these countries than any other single action in the whole field of preventive medicine" (WHO, 1975).

In the nearly 30 years since epidemiologic evidence began to link cigarette smoking and lung cancer, many other deleterious health effects have been found to be associated with smoking. Overall, cigarette smokers have higher death rates than nonsmokers. In a special study, the 1966–1968 age-adjusted death rates for all causes among men 35–54 years of age were found to be about twice as high for those who smoked cigarettes as for those who had never smoked. For men 55–74 years of age, men who smoked had over 1.5 times the death rates of nonsmokers. Death rates of women smokers were 1.77 times those of nonsmoking women (Godley and Kruegel, 1975).

Considerations in developing a cigarette smoking prevention strategy.—Since the first Surgeon General's report disclosed the hazards of cigarette smoking, 29 million Americans have quit the habit, 95 percent of them without the help of organized smoking cessation programs (National Cancer Institute, 1977). The prevalence of smoking within certain groups has dropped markedly. About 60 percent of physicians, dentists, and pharmacists who ever smoked have quit, and the percent of these professionals who now smoke are down to 21, 30, and 28 percent, respectively. In the general population, the proportion of current smokers among all males is 41.9 percent, and among all females, 32 percent (Part B, table 48). This decline in smoking among predominantly male health professionals may, in part, have resulted from awareness of the negative health impact of tobacco use.

A greater proportion of nurses are current smokers compared with the other health professionals surveyed. The percent of nurses who are smokers did not decline between 1967 and 1975. Nurses are more likely to be smokers than the general adult female population. On the other hand, nurses smoke fewer cigarettes per day than physicians, dentists and pharmacists who smoke.

First filter cigarettes, then low-tar and low-nicotine cigarettes, and now filtered cigarette holders have gained broad public acceptance, indicating some recognition of the health hazards of smoking among people unwilling to quit smoking altogether.

Behavioral scientists have devoted considerable attention to ways to help people who want either to cease smoking or to remain abstainers. In the past, antismoking clinics have had high dropout rates and, regardless of the intervention technique used, their clients have had high rates of relapse after the program terminated.

The Stanford Heart Disease Prevention Program attacked cigarette smoking as a primary cardiovascular disease risk factor through instruction involving group and home counseling, reinforced by subsequent, less intensive counseling. Forty to fifty percent reductions in both cigarettes smoked per day and percent of cigarette smokers were reported (McAlister, Meyer, and Maccoby, 1976).

Nevertheless, most people have great difficulty ending the smoking habit. Diverse public actions have been proposed:

- To decrease exposure to positive images of smoking by greater regulation (or elimination) of advertising for tobacco products, especially messages directed at adolescents.
- To provide negative images of smoking in school health education programs and through counter-advertising.
- To decrease the social acceptability of smoking, as well as to protect the rights (or health) of nonsmokers, by segregating smokers and nonsmokers in some public places or workplaces.
- To eliminate entirely the opportunity to smoke in many other public places, with fines for violators.
- To increase the cost of smoking by additional taxation, or by decreasing health and life insurance premiums for nonsmokers. New cigarette taxes might be geared to the cigarettes' tar and nicotine content, to encourage smoking presumably less hazardous cigarettes.

Any disease prevention plan that envisages substantial dislocation in the multibillion dollar tobacco industry faces severe political problems. For one thing, tobacco farmers produce a yearly crop now valued at over $2.4 billion; in 1976, cigarette manufacturers had retail sales of over $15.5 billion and profits exceeding $1.1 billion. For another, the Federal and State governments received an estimated $5.9 billion in cigarette tax revenues in fiscal 1976 (Department of Agriculture, 1977). In addition, tobacco is ranked fourth among U.S. farm crops in export value, and this is at a time when the U.S. balance of payments situation places great importance on export commodities (Friedman, 1975).

Recently, a special study commission formed by the American Cancer Society estimated the economic gains from tobacco products—sales of the crop, tax revenues, employee payrolls, and sales of related fertilizer, pesticides, fuel, and so forth—at under $12 billion, but estimated the costs of the smoking habit—from medical and hospital bills, lost income from workdays missed because of cigarette-related illness—as $18 billion (National Commission on Smoking and Public Policy, 1978). Another estimate places the total direct and indirect costs of smoking—induced diseases at $27.5 billion, $8.2 billion of which is in direct health care costs (Luce and Schweitzer, 1978).

The political and economic force wielded by the tobacco industry has impeded the development of effective national policies that might decrease the demand for cigarettes beyond the elimination of broadcast advertising of tobacco products, and the requirements for package and advertising warning labels and statements of tar and nicotine content. Considerable effort has been expended in the development and promotion of low tar and nicotine cigarettes.

A detailed discussion on cigarette smoking and its impact on health and mortality can be found in the special *1979 Surgeon General's Report on Smoking and Health.*

In few areas in the field of disease prevention is the conflict between an individual's right to follow a chosen course of action and society's interest in maintaining public health more clearly drawn than in the personal decisions relating to tobacco as well as to alcohol and drug use. The current emphasis on the importance of individual actions in maintaining health seems perhaps most appropriate when applied to these behaviors, partly because the health and safety hazards are clear and not confined to the individuals who participate in the behaviors, and partly because of traditional sanctions.

The argument that individuals should take more responsibility for their own health, that

society is overburdened by the economic consequences of irresponsible individual behavior, that the medical care system cannot absorb an expanding burden of illness from unnecessary disease and injury brought on by individual behavior choices, are all variations on one theme—individuals control their actions and the health consequences of those actions, an idea popularly termed "blaming the victim." Yet, traditional American values of self-determination and personal privacy inhibit the development of prevention strategies that would strictly regulate individual behavior.

Government can take action, however, affecting the social environment. The existence and consequences of personal behavior choices of all types are often not apparent, and healthful choices may be difficult to make, even when recognized. Decisions to smoke cigarettes, drink alcohol to excess, and take drugs are not simply matters of individual choice. They take place in the context of a society that has glamorized such behavior through advertising and more subtle means and that continues to support industries producing unhealthful products, enacts or enforces laws against certain behaviors unevenly, has provided ambiguous messages about the kinds of behavior that are acceptable, and, perhaps most important, has not acted to ameliorate some of the socioeconomic and other stressful conditions that foster unhealthful decisions. The fruitfulness of relying on individual responsibility for health might by increased if some of these imbalances and gaps in understanding were corrected.

Case Example 6. Genetic Disorders

Genetic disorders are those with a clearly defined mechanism of inheritance, in which a genetic component plays a substantial role or results from a chromosomal abnormality—one or more mutant genes, or alterations in the number, size, or arrangement of chromosomes. They can cause disturbances in body chemistry, physiology, or structure, often resulting in lifelong physical or mental impairment.

Safe, effective preventive measures are available for some of these diseases in the form of genetic counseling, prenatal diagnosis followed by termination of affected pregnancies, or early treatment to prevent development of disease. There are, however, important constraints on the feasibility of prevention programs for genetic diseases, such as abortion, that relate partly to the availability of appropriate health care services and partly to marked differences in religious and ethical value systems in our society.

Few reliable estimates of the incidence of genetic disease and disability exist. Reports from some populations indicate that 6 percent of neonates are afflicted with serious diseases in which genetic factors are significant. Surveys show that genetic factors contribute, directly or indirectly, to the hospitalization of a rather large proportion of children. Genetically determined conditions constitute the second most frequent cause of death prior to 1 year of age (NCHS, 1975).

The overall incidence of single-gene disorders is about 10 in 1,000 live births. The number of different diseases resulting from alterations of a single gene is very large, 2,336 in 1975, and it is growing constantly as new ones are recognized. Although each of these individual conditions may occur infrequently, the aggregate of single-gene disorders has considerable impact on health, especially that of children. Surveys indicate that 6.7 of every 1,000 newborn infants have a readily detectable chromosomal anomaly.

Effective prevention strategies have been devised for a number of specific conditions, and may prove applicable to other conditions as techniques for identifying families and pregnancies at risk become more refined.

Secondary prevention of some inherited metabolic diseases is possible by early case-finding through screening either prior to or immediately after birth, followed by appropriate treatment before irreversible damage occurs. The condition which has been screened for most extensively is phenylketonuria (PKU). If an infant with PKU is identified by a blood test shortly after birth, and appropriate dietary treatment begun before

six weeks of age, the severe mental retardation that accompanies this condition is prevented. Many States have laws mandating screening of newborns for PKU (National Research Council, 1975). Other metabolic disorders, as well as congenital hypothyroidism, can be successfully prevented through early detection and treatment.

Many genetic diseases can be detected prenatally, through analysis of a small amount of amniotic fluid. When testing reveals that a fetus will be afflicted by one of these diseases, parents can then decide for themselves whether or not to continue the pregnancy.

Some genetic disorders, such as hemophilia, affect primarily one sex, usually male. Because recessive sex-linked disorders are relatively rare, parents usually do not know they harbor the faulty genetic material until after the birth of the first affected child. For most of these diseases, the sex of the fetus is all that can be determined. Parents must then face the difficult choice of whether or not to terminate any pregnancy carrying a male fetus when there is a 50 percent chance of that fetus being harmed.

For an increasing number of genetic disorders, there are screening tests that can identify parents who are carriers of defective genes. The best-known screening programs for parents who want to know if they are carriers are those for sickle cell anemia and Tay-Sach's disease.

Genetic counseling is a part of all strategies for prevention of genetic diseases. Examples of situations where counseling can be helpful are: couples in which the woman is over 35 years of age, and therefore has an increased risk of producing an infant with Down's syndrome; couples with a familial history of certain inherited diseases; couples in which the partners are blood relatives; and couples in which one or both partners has been exposed to powerful mutagenic agents, such as radiation or certain chemicals. In many cases, counseling serves to allay parental fears about the risk of reproduction. In others, subsequent testing may be indicated.

Many birth defects have a strong genetic component in their etiology. About 24 out of every 1,000 new babies have a significant and detectable malformation at birth (Ash, Vennart, and Carter, 1977), and twice as many congenital defects are diagnosed in older children. Approximately 30 percent of children in hospital wards are there because of congenital defects. Relatively little progress has been made in reducing these rates (National Research Council, 1976).

Several environmental agents are probably important in causing such birth defects as cleft palate, when the appropriate genetic makeup is present. Differential susceptibility to severe birth defects from infection during pregnancy by viruses, such as rubella (German measles), cytomegalovirus, herpes, or other agents, such as Toxoplasma gondii or the syphilis spirochete may also have a genetic basis. Once an infectious environmental agent is identified, the potential for prevention exists, as with prevention of the congenital rubella syndrome through appropriate immunization or prevention of congenital syphilis through early treatment.

The genetic predisposition to neural tube defects is well known. A prenatal screening test for the amount of alpha-fetoprotein (AFP) in amniotic fluid is available that reveals about 95 percent of open neural tube defects. Screening is impractical for families without a history of the defect; however, it may become feasible for all women with improved tests for AFP in maternal serum.

According to information from the Center for Disease Control's congenital malformations surveillance program, the incidence of neural tube defects (anencephaly and spina bifida) in the United States was estimated to be 8.8 per 10,000 births in the year ending September 1977 (CDC, 1978).

Neural tube defects produce a range of serious impairments and often have associated abnormalities and complications. Infants that survive and undergo surgery to close the open lesion often have severe handicaps—paralysis of the legs, incontinence, deformity, and sometimes mental deterioration, among other conditions (Prevention of Spina Bifida, 1978). Caring for such a child puts a great strain on family members. One study revealed a divorce rate for families with a surviving spina bifida child that was 9 times

the rate of a comparative population (Tew et al., 1977).

Lack of awareness by the general public and health professionals is particularly severe in the case of genetic disorders. At least one survey has revealed that genetic disease is not considered very important by a majority of physicians (Rosenstock, Childs, and Simopoulos, 1975), making them unlikely to take the steps necessary for prevention, or to inform their patients about the possibility of disease and ways to avoid it.

Genetic counseling is not widely offered now, and genetic counseling is not usually covered by health insurance.

In 1976, the National Sickle Cell Anemia, Cooley's Anemia, Tay-Sachs, and Genetic Disease Act became law. It was intended to provide research support, training, counseling, and information and education programs regarding genetic diseases. No funds were appropriated to carry out this mission until 1978, however, when $4 million was granted (the act authorized $30 million annually).

Case Example 7. Violence

Violence is discussed here because, while it is an important component of mortality statistics, it is relatively neglected by the health establishment.

Violent causes of death and disability—murder, suicide and accidents—are for the most part the consequences of human action and presumably, therefore, mostly preventable. Unlike the overall death rate which is at its lowest point in the history of the United States, death rates from violent causes were higher in the 1970's than they were in the 1950's and the 1960's. Lest one be led to a conclusion that rising death rates from violent and accidental causes are inevitable, it is well to remember that death rates from violent and accidental causes were actually higher in the 1930's. The economic depression of the 1930's led to the investigation of socioeconomic conditions as causative agents of high mortality (Kitagawa and Hauser, 1973) and of certain forms of violence (Hovland and Sears, 1940). More recently the relation between economic stability and mortality has been studied (Brenner, 1977).

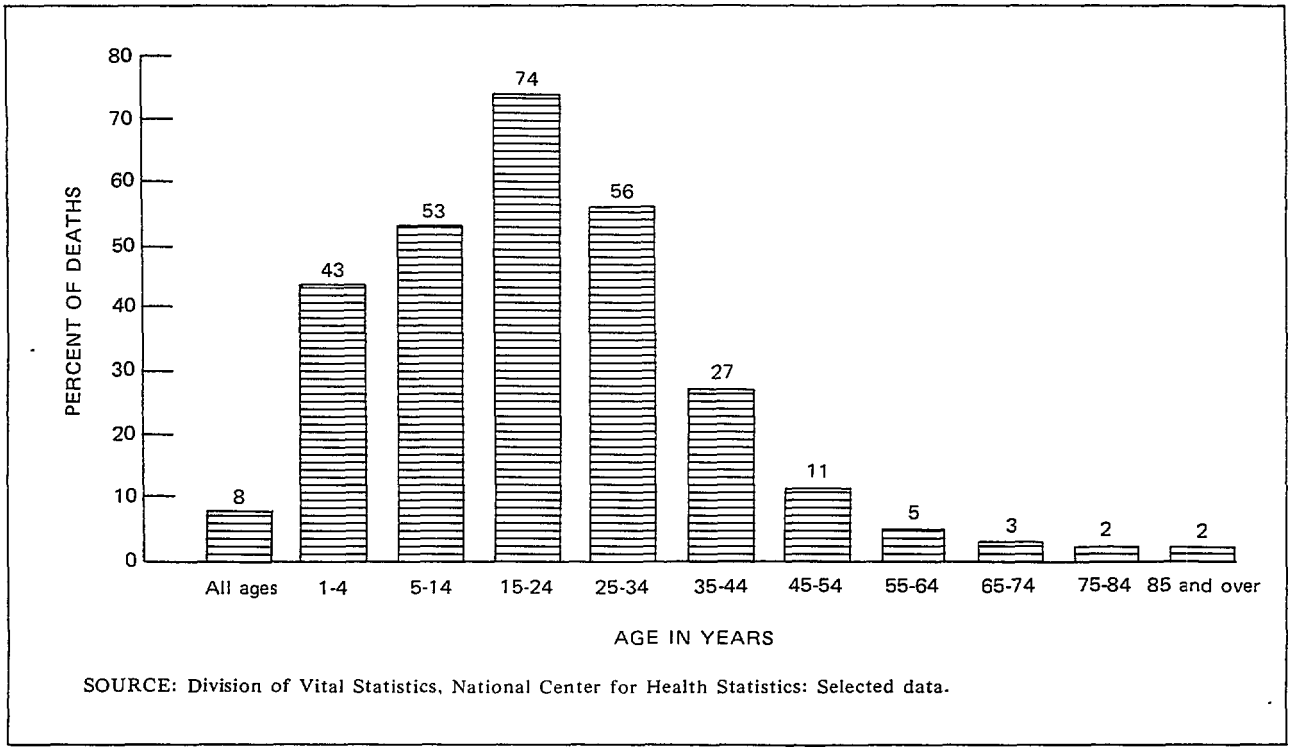
In the 1970's, nearly 1 death in every 12 (8 percent) was caused by violence and accidents. Violent and accidental death as a proportion of all deaths has been constant throughout the 1970's. Data for 1976 show that the proportions vary markedly from age group to age group—from 2 percent in the oldest age groups, 75 years of age and over, to 3 out of every 4 deaths, 74 percent, among people 15–24 years of age. More than half of all deaths of children 5–14 years of age, and of young adults 25–34 years of age are attributable to violent causes. Deaths from violent and accidental causes as a proportion of total deaths decline sharply with age dropping to 1 in 4 for people 35–44 years of age, 1 in 10 for people 45–54 years of age, and 1 in 20 for people 55–64 years of age (see figure 1).

Accidents.—In 1976, one of the most preventable causes of death killed 100,761 people. These were deaths caused by accidents; nearly half from motor vehicle accidents. On any long weekend more people are killed on the highways by motor vehicles than are killed in a year by tornadoes or hurricanes (Iskrant and Joliet, 1968).

Accidents—largely manmade—currently constitute the fourth leading cause of death in the United States, after heart diseases, cancers, and cerebrovascular diseases. In 1976, accidents accounted for 5.3 percent of all deaths.

Throughout school years, early work years, and early years of marriage, a person in the United States is more likely to die from an accident than from any other cause. Accidents are the leading cause of death among people 1–34 years of age. In 1976, accidents were responsible for exactly half the deaths of all children and young people (1–24 years of age).

Deaths from accidents, especially motor vehicle accidents, are of unequal occurrence geographically across the United States. The highest rates of death from motor vehicle accidents occurred in the Western States of Wyoming and New Mexico. In general, death rates from motor vehicle accidents were



SOURCE: Division of Vital Statistics, National Center for Health Statistics: Selected data.

Figure 1. Percent of deaths attributed to accidents, homicide, and suicide, according to age: United States, 1976

lower in the Northeastern States than they were in other regions of the country.

The U.S. record in prevention of deaths from accidents is notable. Death rates from accidents have declined dramatically during recent decades, in practically every age group. For older adults, the death rates from accidents in the 1970's have been half of what they were in 1930. Adolescents and young adults are an exception to this trend; the death rates from accidents for people 15–24 years of age have been as high in the 1970's as they were in 1930.

In the 1970's, death rates from accidents continued to decline for the population as a whole, but relatively slowly. This was true for motor vehicle accidents as well as for all other accidents. The total death rate for accidents dropped to a record low of 46.9 per 100,000 for 1976. During this period, however, there was a slight increase in the age-adjusted rate for motor vehicle accidents. The rise in death rates from motor vehicle accidents in 1976 follows on the heels of decreases during the 2 years immediately preceding. Between 1973 and 1974, and again between 1974 and 1975, there were decreases in death rates from motor vehicle accidents. It has become common in citing these earlier declines to take note of the Nation's gasoline shortage and legislation establishing 55 miles per hour speedlimits as contributory. The effect of these events on motor vehicle fatalities appears to have worn off.

Males continue to be killed more frequently in accidents than females, especially in motor vehicle accidents. Males are nearly 3 times (2.78) as likely to die in motor vehicle accidents as females. The age-adjusted female death rate from motor vehicle fatalities rose between 1975 and 1976 while the rate for males decreased slightly.

Injuries from accidents, although almost as common as the common cold and dental caries, are largely preventable. Certain types of accidents are relatively rare and would be extremely costly to prevent. "The cost of prevention far exceeds the expected loss; so the accident should be allowed to occur" (Schwartz and Komesar, 1978).

Injuries caused by accidents are incurred

by 30 for every 100 persons in the United States each year. These statistics refer to only those injuries serious enough to receive medical attention or cause restricted activity for at least one day. Children under 6 years of age incur nonfatal injuries more than adults; boys more than girls.

In terms of serious disability, however, days in bed or days of restricted activity, injuries account for more disability among older people than younger people.

Homicide.—Modern medical and hospital care were relatively helpless in the prevention of another 46,386 deaths in 1976 by homicide and suicide.

The increase in homicide that began in the early 1960's reached the record high in 1974. The homicide rate decreased in 1975, and decreased further in 1976. As with accidents, males are more likely to be victims than females. The most likely murder victim is a male 25–34 years of age. After age 35, the older a person gets the less likely he or she is to be murdered. People other than white are 6 times more likely to be murder victims than are white people. Males other than white are 20 times likely to be murdered than white females.

Since 1940, the homicide rate has risen in every age group. It should be noted, however, that in 1930, when the country was in the midst of its most serious economic depression, the homicide rate was about as high as it was in 1970 for virtually all age groups.

The homicide rates were at their lowest in the 1950's and 1960's. For example, the homicide rate in 1960 for people 15–24 years of age was half of what it was in 1976, and one-third less than for people 25–34 years of age. The conditions of life for young adults appear to have changed drastically during the 1970's—for the worse, as indexed by homicide rates. Clues to preventive action with respect to homicide are not likely to be found in the demographic characteristics of the victim. Rather they are to be sought in the circumstances of life of both victim and murderer, as well as in the technology of murder.

It is well known that the United States is a world leader in homicide rates by firearms. In 1974, the homicide rate by firearms was 6.6 per 100,000 population having risen from 5.6 in 1971 and 4.5 in 1968. Between the 1940's and the 1970's, the increasing use of guns to kill people in the United States has been marked (Farley, 1978).

Deaths from homicidal violence enter into "health" statistics as mortality rates. The prevention of homicides is not usually regarded as a "health promotion or disease prevention" problem. Despite the substantial contribution of homicidal violence to the Nation's health statistics, the Department of Health, Education, and Welfare has no targeted program devoted to the reduction of mortality rates by prevention of homicide.

Suicide.—Suicide took even more lives than homicide in 1976. The suicide rate, like the homicide rate, declined slightly from the previous year. Again, as with the other violent causes of death—accidents and homicide—males had a much higher rate than females. In 1976, the age-adjusted suicide rate for males was nearly 3 times that for females.

In contrast to homicide, suicide rates are higher for whites than for other races. This is the case for both sexes. Unlike homicide, suicide is evenly distributed over age categories.

Suicide rates among younger people were higher in the 1970's than they were in the 1950's and 1960's, reaching or exceeding the levels achieved during the depression years of the 1930's. The high suicide rates among younger people during the 1970's is coincident with the high homicide rates during this period and the high level of mortality from other violent causes, in general.

SUMMARY

Some statistical data have been presented which suggest that the incidence of certain specific diseases and consequent disability as well as the occurrence of untimely deaths could be substantially reduced if the health knowledge already available today were more effectively applied. Unnecessary disease, disability and untimely deaths can be counted as "sentinel events" which reveal where the

quality of medical care can be improved. But even improved medical care is unable to prevent disease arising out of unhealthful personal behavior, such as cigarette smoking, poor eating, and lack of physical activity. The extent and distribution of unhealthful personal behaviors can be measured and the impact of programs directed toward their reduction can be quantitatively assessed. Likewise, use of preventive medical services, such as immunizations and blood pressure readings, can be monitored by sample surveys of the population. A major area which currently suffers from a lack of dependable statistical information is the world of work, and the exposure of occupational groups to manmade hazards. Information is needed about the health consequences of environmental exposure at the workplace and elsewhere. Of critical importance also is the continuous evaluation of prescriptions for modifying life-styles and the development of convincing evidence about their consequences for health.

Beyond improvement in the quality of medical care, there is little doubt that unnecessary disease and untimely deaths can be reduced by acceptable intervention strategies in the areas of personal health behavior, modification of the environment at work and elsewhere, and control of weapons and vehicles people use to kill themselves and each other. Recognized as making significant contribution to this country's mortality statistics, deaths from violence continue somehow to be excluded from the day-to-day concerns of the health establishment. Along with other major killers they too could be considered as targets of opportunity for prevention.

Unnecessary disease and injuries also means unnecessary use of health resources. Whether the institution of preventive health services and preventive health behavior will substantially reduce expenditures for medical and hospital services is, however, not known.

The successful implementation of appropriate prevention strategies, such as those which have been considered under the Prevention Initiative of the Department of Health, Education, and Welfare, will not be easy. Changes are required not only in personal behavior and lifestyles, but also in the organization of work and in governmental programs that are occasionally in conflict over what their immediate goals should be.

Finally, since untimely deaths from almost all causes and unnecessary disease and disability are higher for the poor and less well educated, the overriding factor in their prevention appears to remain in improvement of socioeconomic conditions.

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CHAPTER III

Children and Youth: Health Status and Use of Health Services[a]

There is a long history of concern for the health and well-being of children in the United States. The welfare of children is also a high priority of the Federal Government. There have been White House Conferences on Children at approximately 10-year intervals for the last 70 years. The first conference in 1909 led to the development of the Children's Bureau. At each conference since then, the rights of children have been reiterated. The Children's Charter, adopted at the 1930 White House Conference, set standards for children's health. These included:

> "For every child, full preparation for his birth, his mother receiving prenatal, natal, and postnatal care; and the establishment of such protective measures as will make childbearing safer.
>
> "For every child, health protection from birth through adolescence, including: periodic examinations and, where needed, care of specialists and hospital treatment.
>
> "For every child from birth through adolescence, promotion of health, including health instruction and a health program, wholesome physical and mental recreation, with teachers and leaders adequately trained.
>
> "For every child, education for safety and protection against accidents to which modern conditions subject him. . . .
>
> "For every child who is blind, deaf, crippled, or otherwise physically handicapped, and for the child who is mentally handicapped, such measures as will early discover and diagnose his handicap, provide care and treatment, and so train him that he may become an asset to society rather than a liability. . . ." (Social and Rehabilitation Service, 1967)

It is appropriate now, as the International Year of the Child begins and the 50th anniversary of the 1930 Conference approaches, to evaluate the progress made in meeting those standards. It is also appropriate to evaluate the health conditions of children and youth today, because the problems addressed by the 1930 standards may not be today's problems. Much has changed in the United States during the past half century and much has been learned. It may be time to set new standards in the light of current conditions and knowledge.

The purpose of this chapter is to review the progress made and provide a context for

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NOTE: Unless otherwise noted, data are from the ongoing data-collection systems of the National Center for Health Statistics. In many instances, the data have been published in the *Vital and Health Statistics* series.

setting new guidelines for health services for children and youth. The focus is on the physical health of children and their use of medical services. Other health services such as dental care, immunizations, mental health care, and long-term care are discussed in other chapters of this report and so are not discussed here. Many of the tables in Part B of this report contain data about children and youth, and the discussion of these data are contained in the appropriate sections of Part B.

It is recognized that health is influenced by a variety of factors other than medical services and that other aspects of the environment may be even more important than the services themselves (Milbank Memorial Fund, 1977). The world in which a child grows up influences the health of the adult he or she becomes. That larger environment should not be ignored when considering the impact medical services can have on health; superb care in a hospital with every modern technological innovation will not guarantee superb health for the child who returns to a rat-infested home with no heat or water, who plays on city streets, or who is physically abused by parents who need help themselves. Nevertheless, the fact that wider problems exist and that medical care cannot solve all illness should not be used as an excuse for failing to provide adequate care. Since poor children have more health problems than their more affluent counterparts, there may also be an inherent responsibility to ensure that those poor children get good health care; they are more likely to need it.

SOCIAL ENVIRONMENT OF CHILDREN

The conditions under which children live have changed drastically since today's parents were children. It is essential to recognize these changes and to evaluate the health needs of today's children in the light of today's conditions rather than those existing in the recent past.

Our country has become accustomed to large numbers of children and youth as a result of the large number of babies born during the baby boom following World War II. However, those babies are now young adults. The declining birth rates since the early 1960's also mean that there are more adults relative to the number of children. In 1964, there were 147 adults 18–64 years of age for every 100 children under 18 years of age; in 1978, there were 208.

Despite this increase in the number of adults per child, children are increasingly likely to have only one parent or adult to care for them. It has been estimated that 45 percent of the children born in 1977 will spend some part of their childhood with only one parent (Glick and Norton, 1977). Being raised by one parent is not a totally new phenomenon; at the turn of the century about 29 percent of the children had only one parent during some part of childhood (Bane, 1976). The reasons, however, are different. In the early 1900's, when death rates, including maternal mortality rates, were high, the death of a parent was the usual reason. Now, the reasons are out-of-wedlock birth and divorce.

In 1960, for example, 5.3 percent of the births were recorded as born to unmarried mothers; by 1976, that figure had risen to 14.8 percent. The proportion of children involved in divorce in a single year increased from 7.2 per 1,000 children under 18 years of age in 1960 to 17.1 per 1,000 children in 1976.

As a result, only 71 percent of the children under 18 years of age were living with both of their biological parents in 1975. About 8 percent were living with one biological and one step-parent, 18 percent with one biological parent only, and 3 percent with neither parent (Glick, 1978). More than one-quarter of the elementary school children were not living with their biological fathers in 1976 and, of those whose parents were divorced, less than a third saw their father regularly (Foundation for Child Development, 1977).

The greatest change has been in the proportion of children who live with a mother only which doubled from 8 percent in 1960 to 16 percent in 1976 (Glick and Norton, 1977).

Probably the overwhelming effect on the child of living with only a mother is that the child is likely to be raised with little money or in actual poverty. In 1976, more than half (52 percent) of the children in families headed by women were living below the poverty level in contrast to 8.5 percent of the children under 18 years of age in families headed by men. More than half (55.4 percent) of the children and a fifth (22.4 percent) of all people living in poverty were children in families with a female as head (U.S. Bureau of the Census, 1978b).

About two-thirds (65.6 percent) of the black children in families with female heads, compared with a fifth (19.4 percent) of those with male heads, lived in poverty. The comparable figures for white children were 42.7 and 7.1 percent, respectively (U.S. Bureau of the Census, 1977a).

Unprecedented proportions of children are enrolled in school now. In 1960, 3 out of 5 young adults 18–24 years of age were high school graduates; in 1976, 4 out of 5 were. In 1966, 29 percent of the children 3–5 years of age were enrolled in school; by 1976, 49 percent were enrolled (U.S. Bureau of the Census, 1978a). The necessity for school adjustment and achievement beginning at an early age and continuing for longer periods of time has now become nearly universal, leading to a new morbidity—the problems associated with school adjustment and achievement. Such problems can stem from many sources—retardation, dyslexia, social and cultural deprivation, and psychological or emotional problems.

These new problems are, in a broad sense, health problems, although they are seldom considered to be strictly medical ones. Like physical health problems, they can occur in any child regardless of external environment, but they are more frequently manifest in children with poorly-educated parents.

They are the most recent manifestation of the strong relationship between health and poverty that has been illustrated in many studies. There is a generational cycle of lack of health care, poor health, poverty, lack of health care, poor health, that is endlessly repeated.

The women who are most likely to have babies who are in poor health are the women least likely to receive early prenatal care. These women are likely to have little money or health insurance to pay for medical care for themselves or their children. Children in families where little money is available are more likely than other children to be in poor health, yet they are also less likely to receive primary and preventive health care. Thus, they are at great risk of continuing to have health problems—and continuing to lack medical care—as they go through adolescence and into adulthood. When they reach the point of having their own children, the cycle repeats.

There are also health problems and needs for care that cut across all class lines. All children need preventive care such as immunization against communicable diseases, dental examinations and repair of teeth, and eye examinations and correction or compensation for defective vision.

Some children have chronic conditions for which there is no known prevention or cure at present. Such children require continuing care over long periods of time. The conditions range from severe asthma to myopia. Although these conditions are totally different in etiology and treatment, they have in common a change in severity as development proceeds, the need for repeated visits for medical care over many years, and the possibility of emotional or learning impairments as consequences.

No one approach or program will meet the needs of all children. The 18 years of childhood cover a period of incredible physical change. The adolescent boy is physically more like the man he will be than the newborn baby he was. The adolescent girl is more capable of having a baby than being one.

There is a need for flexibility in the places where care is provided for children and in the background and training of the people who are providing the care. Both should be adjusted to the changes in the health needs of developing children and to their dependence on other people for the decision to seek medical care, transportation, and payment of medical bills.

CONDITIONS SURROUNDING CHILDBIRTH

The conditions surrounding childbirth have greatly improved during the past 50 years. In 1930, 65 out of 1,000 babies born alive died before their first birthday (U.S. Bureau of the Census, 1947). Twenty years later, in 1950, the rate was less than half that—29 per 1,000 (NCHS, 1977c). During the following 20 years, the rate of decline was much slower; in 1970, the infant mortality rate was still 20 deaths per 1,000 live births and there was speculation that the lowest level possible had been reached. For reasons only partly understood, the rate again began to decline rapidly. By 1976, the infant mortality rate was 15.2 deaths under 1 year of age per 1,000 live births (NCHS, 1978d). Provisional data indicate that the decline is continuing; the infant mortality rate was 14.0 in 1977 (NCHS, 1978b).

In 6 years, the infant mortality rate dropped 24 percent. More than 12,000 babies survived in 1976 who would have died if the 1970 rate had prevailed. About 127,000 babies survived in 1976 who would have died if the 1930 infant mortality rate had prevailed.

The decline in the infant mortality rate for the first 7 days after birth—the time when the risk of death is greatest—was phenomenal (32 percent) during the period 1970–76 (NCHS, 1977c). These are deaths that can often be prevented by good prenatal care, by identifying and caring for the woman at high risk of having her child die, and by first-rate care during delivery and immediately after the birth. Part of the improvement in survival has resulted from relatively fewer births to women who are at high risk because of age or parity; part has resulted from technical improvements in medical care and regionalization of maternal and neonatal services. The decline in the infant mortality rate for the post-neonatal period, when the environment in which the child lives is more important, has not been as great—only 12 percent during the same 6-year period.

There is, however, no reason to believe that infant mortality rates in the United States are now as low as they could be, considering the amount of variation in rates by race and geographic location. In 1976, the infant mortality rate for black babies was 92 percent higher than for white ones; the rate during the first 7 days after birth was 87 percent higher. If the infant mortality rate for black infants had been as low as that for white ones in 1976, 6,280 of the 13,120 black infants who died would have lived.

Analyses of infant mortality rates for different areas of the country also reveal how much variation there is within the United States and give further indication of the room there is for improvement. The data for the Health Service Areas (HSA's) designated under the National Health Planning and Resources Development Act (Public Law 93–641) are a good example. During 1974–75, when the mortality rate for white infants in the United States was 14.5 deaths per 1,000 live births, 10 percent of the HSA's had rates of 17.0 or higher for white infants, while 10 percent had rates of 12.5 or lower. During the same 2 years, the mortality rate for black infants was 26.5 deaths per 1,000 live births. Ten percent of the HSA's where there were 1,000 or more births of black infants had rates of 33.0 or higher for black infants; 10 percent had rates of 20.2 or lower. The infant mortality rate for black infants in the HSA's that had the lowest rates for black infants was higher than the infant mortality rate for white infants in the HSA's that had the highest rates for white infants (NCHS, 1977b).

Some of the variation among geographic areas may result from uneven distribution of medical resources. In 1973, there were 4.8 obstetricians and gynecologists for every 10,000 women of childbearing age in metropolitan areas compared with 1.8 in nonmetropolitan areas. The comparable numbers for pediatricians were 3.5 and 1.1 per 10,000 children under 15 years of age. In 1976, 28 percent of all hospital deliveries were in hospitals with no premature nursery and 17 percent in hospitals with no blood bank. Children born in urban hospitals were much more likely than children born in hospitals outside metropolitan areas to be born where these facilities were available; 80 percent of

the babies born in hospitals in metropolitan areas, compared with 48 percent born in hospitals outside metropolitan areas, were born where there was a premature nursery.

Some of the variation among population groups may result from lack of care. While there has been a great increase in the proportion of women receiving prenatal care, a shift toward earlier care, an increase in the proportion of births in hospitals, and improvement in the technical capability for safer childbirth, many mothers still do not receive adequate prenatal care, and children are still born in hospitals that are not equipped for emergencies during delivery or for the care of a premature newborn.

In 1970, 68 percent of the women giving birth made their first visit for prenatal care during the first trimester. By 1976, 71 percent of the women giving birth made at least one visit for prenatal care during the first trimester of pregnancy. However, 6 percent had no prenatal care during either of the first two trimesters. Also, those women whose children were at greater than average risk of dying in infancy—adolescent women, older women, and black women of all ages—were less likely than others to receive early prenatal care. Those at greatest risk—black adolescent women—were least likely of all to receive early care; 14 percent were recorded as not receiving any prenatal care at all during the first two trimesters of pregnancy. During the same year, the proportion of low-birth-weight babies (2,500 grams or under) born to adolescent black mothers was twice as high as the national proportion (15 percent versus 7 percent).

Currently, about 99 percent of all births are in hospitals compared with 56 percent in 1940. Only 1 percent of the babies born in 1976 were born outside a hospital with no physician in attendance. However, a black baby was about 5 times as likely as a white one to be born outside a hospital without a physician.

Universal early prenatal care and good care and facilities for the birth are not the only ways to reduce infant mortality. One of the objectives of maternal and child health programs has been to reduce the proportion of births to women in high risk categories. Approximately 27 percent of the decline in infant mortality from 1964 through 1974 can be attributed to changes in the age of mother and live-birth-order distributions, assuming no change in the specific mortality rates (Morris, Udry, and Chase, 1975). During this period, 30 percent of the decline in rates for white infants but only 19 percent of the decline for black infants was because of a change in the age and live-birth-order distribution (Kovar, 1977).

Medical care makes a difference in the child's chance for survival, however, and its contribution should not be ignored. For example, low-birth-weight babies are a group at far greater risk of death than babies who weigh more at birth. Prompt attention for these children to help them survive the first few days after birth can do much to reduce infant mortality. Early neonatal mortality rates (i.e., deaths of children under 7 days of age per 1,000 live births) for low-birth-weight infants were fairly stable from 1950 through 1964, but they decreased sharply by 1974. The decline in mortality among low-birth-weight infants accounted for more than half of the decline in early neonatal mortality during that time, and improved survival during the early neonatal period was not merely a postponement of death until later in infancy (Kleinman et al., to be published).

An analysis of 140,000 births in New York City in 1968 suggests that, by identifying women at risk on the basis of relatively simple social and medical information collected early in pregnancy and providing adequate care to those women, infant mortality could be substantially reduced. "The overall infant mortality rate would have been reduced 16 percent if mothers in each risk category had had the same pregnancy outcome as the other mothers in their ethnic group who had adequate care" (Institute of Medicine, 1973a).

The New York City data documented the same misallocation of resources as the national data. Those women who were at greater than average risk were less, rather than more, likely to receive adequate prenatal care than those who were at less than average risk.

HEALTH STATUS

The measurement of the health of a population is never easy. For children and youth in a modern technological society, it is especially difficult.

When death rates were high and the infectious and parasitic diseases were the major killers of children, the mere fact of survival was considered a sufficient measure of health. However, death rates provide relatively little information about the health of a population when they are very low or when the majority of the deaths result from accidents and violence rather than disease, as is the case for children in the United States today.

More useful for measuring health status are the measures of incidence and prevalence of diseases, physical or emotional impairments, and reductions in physical, intellectual, or social functioning. Unfortunately, these measures are also more difficult to obtain and to interpret.

Almost all children are sick or injured at least once and usually a number of times. Occasional upper respiratory infections, cuts, and bruises are part of childhood and need not have a permanent effect on health status.

Of all diseases affecting children, the respiratory conditions cause more disability and use of medical services than any other group of conditions. Children and youth have more days of restricted activity, spend more time in bed, and lose more days of school because of acute respiratory conditions than for any other reason. During 1975–76, respiratory conditions accounted for 61 percent of all the school days children missed because of acute illnesses. Asthma caused more long-term limitation of activity in children than any other chronic disease, and only chronic bronchitis was more prevalent.

A quarter (25.6 percent) of all the visits made by children under 18 years of age to office-based physicians during 1975–76 were for respiratory conditions—33 million visits a year. More than half (58 percent) of these visits were for acute upper respiratory conditions; 15 percent were for bronchitis or asthma.

A fifth (21 percent) of the days children spent in short-stay hospitals during 1975–76 were because of respiratory conditions. A third (30.3 percent) of the 4.9 million days a year for respiratory conditions were because of pneumonia.

In 1976, 5 percent of the deaths of children past infancy were because of respiratory conditions. Pneumonia caused the deaths of more than 900 children that year and almost 2,000 infants.

Injuries from accidents and violence, however, kill more children than any disease. Half of the 32 thousand children past infancy who died in the United States in 1976 died from accidents. Motor vehicle accidents accounted for more than a quarter (27.3 percent) of the deaths, 7 percent drowned, and 4 percent died in fires. In addition, 5 percent of the deaths were reported as homicides and 3 percent as suicides.

The epidemiology of injuries is different from that of the common acute illnesses of childhood, such as respiratory conditions or infectious and parasitic conditions. While diseases occur more frequently in preschool children than in school-age children and at about the same frequency among boys as girls, the incidence of injuries is about the same for school as preschool children and much more frequent among boys than girls.

Injuries are the only acute condition affecting children and youth where there is a pronounced sex difference. For each 100 boys of school age, there were 51 injuries and 50 days lost from school during the 1975–76 school year, while for each 100 girls there were 29 injuries and 22 days lost from school (NCHS, 1978a).

Prevention of injuries should begin with an evaluation of conditions in and around the home, since more than half of all injuries to children and youth under 18 years of age that resulted in restricted activity or medical attention occurred at home—26 percent inside the house and 28 percent on the adjacent property. About 17 percent of the injuries occurred at school, 10 percent at places of recreation excluding school, and 8 percent on streets and highways. Twelve percent occurred somewhere else, including farms and places of work.

Recreational facilities and equipment should

also be evaluated for safety. Among children under 6 years of age, the five leading consumer products that accounted for 382 thousand emergency room visits in 1976 were tables, stairs or ramps, bicycles, swings, and beds (Consumer Product Safety Commission, 1978). Among children 6–11 years of age, the top five products that accounted for 498 thousand visits were bicycles, glass of unspecified origin, swings, skateboards, and nails and tacks. Among youth 12–17 years of age, the top five categories were all recreational. Footballs, basketballs, bicycles, baseballs, and skateboards accounted for 773 thousand emergency room visits.

Because of the rapid increase in skateboard injuries, the Consumer Product Safety Commission conducted a special study in May 1977. The study revealed that behavioral changes could have prevented or reduced the seriousness of most of the injuries. In almost all investigated cases, protective equipment was not being worn even though those injured were frequently beginners or were skateboarding on surfaces not designed for the sport. The few deaths that did occur were caused by the victim falling from the skateboard and striking his head or by being hit by an automobile while skateboarding (Consumer Product Safety Commission, 1977). Wearing helmets and staying off public streets while skateboarding could have prevented death as well as injury.

At every single year of age, death rates are higher for boys than for girls (figure 1). They are much higher for accidents, poisonings, and violence (ICDA codes 800–999), and they are somewhat higher for diseases and conditions (ICDA codes 000–796). In 1976, the differential for accidents, poisonings, and violence was smallest at the beginning of life and then increased. Young boys under 6 years of age were 41 percent more likely to die from poisonings, accidents, and violence than young girls the same ages; boys 16–17 years of age were almost 200 percent more likely and young men 18–24 years of age were almost 300 percent more likely to die from accidents, poisonings, or violence than girls or young women the same ages.

Death rates are higher for black children than for white ones. In 1976, the difference in death rates decreased through the school-age years until for a brief period in adolescence (ages 16–17) black youths had lower death rates. After that, the rates diverged sharply again.

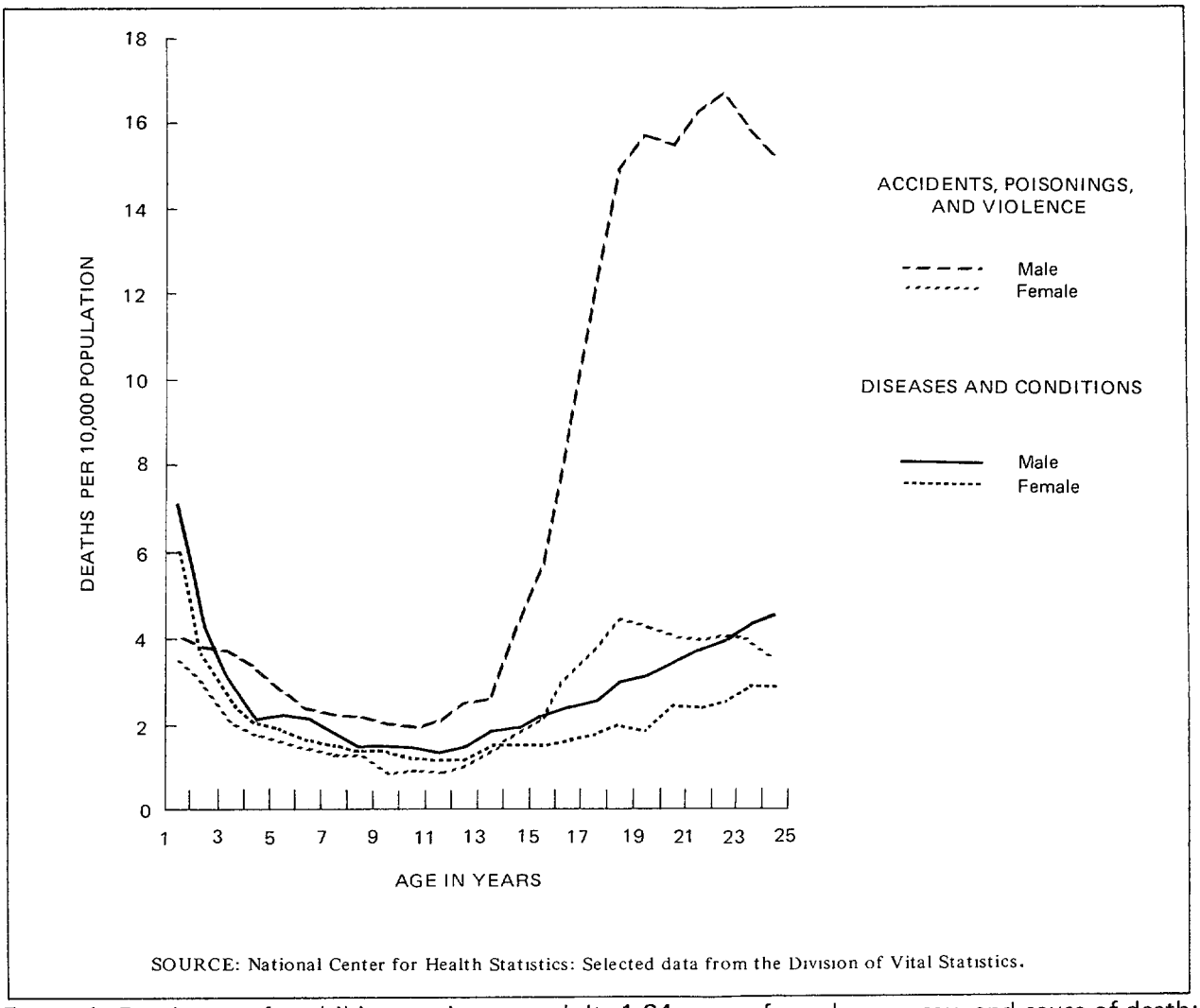
In 1976, young black children were more likely than white ones to die from accidents, poisonings, and violence—death rates of 5.4 and 2.9 per 10,000 children, respectively, for preschool children and 2.4 and 1.4, respectively, for elementary school children (Part B, table 33). Black adolescents were *less* likely than white ones to die of these external causes (3.7 and 4.2 per 10,000 adolescents, respectively) because black youths were not killed as frequently in automobile accidents; they were less likely to have access to automobiles or licenses to drive.

Death rates among children and youth under 18 years of age would be reduced by a quarter if no child died in an automobile accident. Such prevention requires, however, a change in the way people behave; medical care can only do so much. Use of restraining devices in back seats for small children would keep children from being thrown forward and killed. Some European countries have found that changing school hours to nonrush hours helps. However, the greatest potential for reducing the number of deaths is in changing the behavior of the adolescent driver. Raising the legal minimum age of both driving and drinking would save the lives not only of young drivers but of other children who may be passengers or pedestrians (Whitehead, 1977).

There are other disease categories of importance when discussing deaths. Despite the availability of immunization, children do still have communicable diseases and a few children still die of them. In 1976, 21 children died of diseases for which vaccines were available.

The major disease causing death among children 1–17 years of age is cancer. Malignant neoplasms caused the deaths of 3,214 children in 1976; leukemia was responsible for 1,359 of these deaths.

There is, finally, a cluster of conditions which handicap children but which may never be known or treated by the medical care system. These are conditions which in-



SOURCE: National Center for Health Statistics: Selected data from the Division of Vital Statistics.

Figure 1. Death rates for children and young adults 1-24 years of age, by age, sex, and cause of death: United States, 1976

terfere with the child's ability to learn or do well in school or which, in extreme cases, result in the child's placement in an institution.

The National Center for Education Statistics estimates that during 1974–75 there were almost 8 million handicapped children under 19 years of age (U.S. Bureau of the Census, 1977b). The major handicapping condition was speech impairment, followed by learning disability, mental retardation, and emotional disturbance.

In the early 1960's, it was estimated that about 25 percent of the children 6–11 years of age had handicaps for which special educational resources were recommended. The principal type of resources needed were special training for slow learners (13 percent) and speech therapy (6 percent) (NCHS, 1972). There was no change in the level of reported need in 1976 (Foundation for Child Development, 1977). There was, however, an increase in the availability and use of resources.

In the late 1960's, it was estimated that about 14 percent of the youths 12–17 years of age had handicaps for which special educational resources were recommended. The principal resources needed were remedial reading (6 percent) and special training for slow learners (5 percent) (NCHS, 1974).

The discussion so far has been of those children who live in the community rather than in institutions. In 1976, there were

almost 152,000 children and youths under 18 years of age in institutions designed for medical or protective care (U.S. Bureau of the Census, 1978c). The most common reason given for admitting the child was a medical one (38 percent), closely followed by family reasons (31 percent). The most common reason for a medical admission was mental retardation (12 percent of all children in institutions). The second and third most common reasons, nervous disorders and mental illness, together accounted for 11 percent of the children being admitted.

Overall, the health of children in the United States is good. Both the parents and their children assess the children's health as good—although the children rate their own health somewhat lower than their parents rate it. Although the incidence of acute illness is high, few children have chronic conditions or long-term limitation of activity.

There are major problem areas, however. Children in poor families, and especially children in poor families with only one parent, are in poorer health and are more likely to have limitations than children in higher income families. Medical care alone cannot solve all of the problems, but immunizations, glasses for children who are unable to see the front of the room in school, the filling of decayed teeth, and prompt diagnosis and treatment of minor problems to prevent debilitating complications could certainly help reduce problems among children in poor families.

Poor children are more likely to be in poor health or to have functional disabilities than children in families with adequate incomes. They are more likely to develop communicable diseases. They are no more likely to develop other conditions, such as myopia or asthma, but because they are less likely to receive adequate medical care, they are more likely to have some degree of functional disability as a result.

Physical illness, disability, and death are not independent of one another, nor are they independent of emotional illness and disability or the environment in which the child's life is spent. Emotional or behavioral problems can both cause and result from physical problems. The environment, both physical and social, affects physical and emotional health. Crowded and delapidated housing, poor schools and teachers, poverty, and discrimination all increase the risk of physical and emotional illness and impairment. Adequate housing, good schools and teachers, enough money for food and clothing, and social acceptance all decrease the risk.

Strong relationships exist between family income and certain health indicators. The proportion of children in "fair" or "poor" health drops significantly as family income rises. About 9 percent of the children and youth in families with incomes of less than $5,000 per year, compared with 2 percent in families with incomes of $15,000 or more, are reported as being in "fair" or "poor" health. Children and youth in low income families are more likely to have days when their activity is restricted, when they are confined to bed, or when they are out of school. For example, school-age children in low income families lost an average 6.6 days from school per year during 1975–76 because of acute illnesses, while school-age children in high income families lost an average 4.7 days.

There are pockets of poverty and isolation not readily revealed in national data. Children in inner city slums, in the hills of Appalachia, or the fields where migrants pick crops may be in extreme poverty and ill health. Special surveys and individual studies document the health conditions of these children (Coles, 1967–78).

There are also areas where behavior has a direct impact on health. While the overall relationship between emotional and physical health is too broad to cover in this summary chapter, these specific areas need to be addressed at least briefly.

One area is child abuse and neglect. Estimation of the incidence of child abuse from surveys is difficult since people are extremely unlikely to say that they have abused a child. However, indirect methods have been used to try to obtain the data.

One approach is to ask people whether they are capable of injuring a child; another is to ask people whether they personally know of anyone else who physically injured a

child. Both approaches were used for a 1965 survey (Gil, 1970). Twenty-two percent of the adults had felt that they could at some time injure a child, and 16 percent reported that at one time they "could hardly refrain from injuring a child." Three percent of the adults said that they personally knew families involved in child abuse, a response that was transformed into an estimate of 13–21 incidents of child abuse per 1,000 children in 1965.

Although the data on incidence of child abuse are faulty, there is no doubt that physical or sexual abuse or severe neglect can be a significant problem for some children. These children are betrayed by the very people on whom they must depend; they are almost always mistreated in their own homes.

A child's own behavior or the behavior of peers can also lead to adverse health consequences. The risk-taking behavior of adolescents can result in boys and girls injured or killed in automobile accidents or girls pregnant with unwanted children. About 227 thousand girls under 18 years of age gave birth in 1976. Smoking and drinking are known to be associated with shortened life expectancy and certain diseases, yet 71 percent of the high school seniors in 1977 had had a drink, 38 percent had smoked cigarettes, and 35 percent had smoked marijuana at least once during the 30 days prior to the survey (Part B, table 46). Failing to seek medical care when indicated is another health-related behavior of adolescents. In response to a series of questions about seeking medical care for specified symptoms, adolescents were less likely to say that they would want to see a doctor than their parents were (NCHS, 1977a).

School crime and disruption can also be significant problems. A typical secondary school student has about 1 chance in 9 of having something stolen in any given month, 1 chance in 80 of being attacked, and 1 chance in 200 of being robbed by force. Personal violence is most pronounced in junior high schools (National Institute of Education, 1978).

Changing behavior is more difficult than providing medical services and there are no easy solutions to some of these problems. Nevertheless, they are real problems; they impose an added risk to the child's development into a healthy adult.

USE OF MEDICAL SERVICES

Most of the care children receive is ambulatory, even though they use less ambulatory care than adults. For 1975–76, children and youth had about 1,170 ambulatory medical contacts of all kinds and about 553 visits to office-based physicians for every 100 days in hospitals. People under 18 years of age had an average 4.1 physician contacts (including telephone) per person per year, while people 18–64 years of age had 5.2 and people 65 years of age and over had 6.7 during 1975–76 (table A).

Data obtained from a special supplement to the 1974 Health Interview Survey provide previously unavailable information about

Table A. Selected measures of use of medical care, according to age: United States, 1975–76

Age	Ambulatory care		Hospital care		Long-term institutional care[1]—residents
	All contacts	Visits to office-based physicians	Discharges	Days	
	Number per 1,000 population per year				
Under 18 years	4,120	1,947	76	352	2.3
18-64 years	5,163	2,908	175	1,211	2.6
65 years and over	6,732	4,344	361	4,167	44.8

[1] 1976 only.

SOURCES: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey; Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care and Hospital Discharge Surveys; U.S. Bureau of the Census: *Current Population Reports.* Series P-23. No. 69. Washington. U.S. Government Printing Office, June 1978.

where children go for ambulatory medical care. During that year, 69 percent of the children and youth made at least one ambulatory visit. Sixty-two percent went to a private doctor in the office, 5 percent to a freestanding clinic, and 21 percent to a hospital outpatient department or emergency room at least once during the year. These categories are not mutually exclusive; about half of the children saw a doctor in only one setting and a few at all three.

The mutually exclusive categories show that 45 percent saw a private doctor only, 7 percent received care only in a hospital or freestanding clinic, and 17 percent had both private and institutionalized ambulatory care.

Race, place of residence, and income were major determinants for the setting in which ambulatory care was received.

Only 58 percent of the black children under 18 years of age received medical care in any of the three settings; 26 percent saw a private physician only, 18 percent received all their care in an institutional setting, and 14 percent in both. In contrast, 71 percent of the white children received medical care in one of the three settings; 48 percent from only a private physician, 5 percent only in an institutional setting, and 18 percent in both. Overall, 66 percent of the white children, compared with 40 percent of the black ones, received some care in a private setting; 18 percent of the black children, compared with 5 percent of the white ones, received care only in an institutional setting.

Children who lived in the central city were more likely to receive care in an institutional setting than those who lived outside the central city of a metropolitan area. In the central city, 38 percent of the children saw a private physician only, 12 percent received care in an institutional setting only, and 18 percent in both. In the suburban areas, 50 percent received care only from a private physician, 5 percent only in an institutional setting, and 18 percent in both.

Poor children also received a greater proportion of their medical care in institutional settings. Among children in families with incomes less than $5,000, 64 percent saw a doctor in one of the three settings; 30 percent received care in a private setting only, 14 percent in an institutional setting only, and 19 percent in both. Among children in families with incomes of $15,000 or more, 74 percent saw a doctor during the year; 54 percent received all their care in a private setting, 3 percent in an institutional setting only, and 17 percent in both. Thirteen percent of the children and youth in the low income families received some of their care in freestanding clinics, compared with 2 percent of those in the upper income families. Most of the care poor children received in freestanding clinics was in public health clinics; about 9 percent of the poor children had some care in public health clinics. Less than 5 percent used a neighborhood health center.

Black children, children in central cities, and poor children were more likely than their counterparts to receive care in institutional settings, but the amount of such care did not compensate for the lack of care in private settings. They were still less likely to have received any medical attention during the year despite the likelihood of being in poorer health.

Use of hospitals for ambulatory care has greatly increased. In 1956, only about 6 percent of the children under 14 years of age received any ambulatory care in a hospital (Odoroff and Abbe, 1957). In 1974, a fifth (21 percent) of the children and youth had made at least one visit during the year for ambulatory care at a hospital; 16 percent were seen in an emergency room and 8 percent in an outpatient department. Even among the upper income families, 18 percent of the children and youth received some care in hospital outpatient departments and emergency rooms in 1974, and 21 percent of the suburban children used hospitals for some of their ambulatory care.

Children in poor families (with incomes less than $5,000) were more likely to be seen in hospital outpatient departments than those in families with incomes of $15,000 or more (14 percent versus 6 percent). However, children in higher income families were seen in emergency rooms almost as frequently as those in lower income families (15 versus 19 percent). The same relationships held true when black children were compared with white ones or children in central cities with

those in suburbs. Emergency rooms were used by all when needed, but outpatient departments were used by the poor, the black, and the central city child.

Although only 69 percent of the children under 18 years of age visited a doctor during the year, 88 percent were reported to have a regular source of care. For 78 percent, the regular place for care was a private doctor's office; for 6 percent, the regular place was a hospital. Three percent relied on other places. The regular doctor for 46 percent of the children and youth was a general practitioner, and for 28 percent a pediatrician.

Black children, poor children, and children in late adolescence were more likely than the average to have no regular source of care (17, 18, and 15 percent, respectively). Black children, poor children, and children in central cities were more likely than the average to rely on hospitals (19, 12, and 12 percent, respectively) and less likely to rely on private doctors (55, 61, and 68 percent, respectively).

Although care in institutional settings is not inherently better or worse than private care, there can be problems with relying on hospital outpatient departments for care or failing to have any regular source of medical care (Institute of Medicine, 1974). One problem may be lack of continuity. A related problem is that there may be a lack of certain kinds of preventive care such as the recommended series of innoculations. Another problem, which is seldom considered, is that people have to actually take the child to the outpatient department for care or consultation. When a parent is unsure about the need for medical care, and the cost in time, money, or energy is excessive, there may be a tendency to delay or avoid care for the child. Many private doctors, especially pediatricians, can be reached by telephone at specified times and can almost always be reached through an answering service. Thus, when the parent is in doubt about whether the child needs to see a doctor, the telephone can be used for advice, and many minor problems can be managed without a visit. This option is seldom available except through private physicians where there is usually no charge for the telephone consultation.

In 1974, only 6 percent of the black children and 12 percent of the children in families with incomes of less than $5,000 had a telephone contact during the year, compared with 25 percent of the white children and 27 percent in families with incomes of $15,000 or more. The child in a low income family or the black child had to be *taken* to the doctor, with the resultant problems of cost, transportation, and time.

It is instructive to see where medical attention is first received for injuries. In 1975, children under 18 years of age had about 22 million episodes of injury that received some medical attention. For about 47 percent the first medical attention was at a hospital, for 31 percent it was at a doctor's office, for 15 percent it was a telephone call, and for 7 percent medical attention was first received in other ways. For children in families with incomes of less than $5,000, 59 percent received their first medical attention in a hospital setting, while only 37 percent of the children in families with incomes of $15,000 or more went there first. The percentages were 27 and 37, respectively, for doctor's offices. Only 5 percent of the injury episodes for children in low income families, compared with 19 percent for children in high income families, were first medically attended through a telephone call.

It is not known what proportion of those who used the telephone for first medical contact were then seen by a doctor and what proportion did not need to be seen, but it does seem reasonable to speculate on what the potential saving in time and money and the increased access to care would be if telephoning a doctor for advice were an option equally available to everyone. Certainly pediatricians have learned that many problems can be adequately handled by aides trained to handle telephone calls (Katz, Pozen, and Mushlin, 1978). Children who rely on institutional settings for their care might be well served if those facilities also offered telephone consultation as a service.

An assessment can also be made of the volume of care and the number of visits made by children as opposed to the proportion of children who made at least one visit during the year. The distributions by setting are different. Although only 69 percent of

the children and youth visited a doctor's office and 21 percent a hospital, 77 percent of all visits were to doctor's offices and only 17 percent to hospital settings. The remainder were to other places.

The data that follow are based on the National Ambulatory Medical Care Survey and reflect only visits to private physicians' offices. It is important to keep in mind that private physicians provide only part of the ambulatory medical care of children and youth. It has already been pointed out that the first medical care for injured children is frequently received in hospital emergency rooms. Children under 6 years of age, children in upper income families, white children, and suburban children are much more likely than their counterparts to have received care from a private physician.

Pediatricians, general practitioners, and family practitioners provide the major part of the private care of children. Forty percent of the visits made by children under 18 years of age to office-based physicians during 1975–76 were to pediatricians; 34 percent were to general practitioners and specialists in family practice.

Among young children, those under 6 years of age, 57 percent of the visits were to pediatricians. Among elementary school children, 41 percent of the visits were still to pediatricians. However, with adolescence, there was a definite shift away from pediatricians. Only 23 percent of the visits of adolescents 12–15 years of age and 7 percent of the visits of those 16–17 years of age were visits to pediatricians.

Routine care, that is care with no illness at the time, accounted for a quarter (25 percent) of the office visits made by children and youth during 1975–76. Respiratory conditions, the major illness for which children were taken to the doctor's office, accounted for another quarter (26 percent). Infectious and parasitic conditions (8 percent), skin conditions (7 percent), conditions affecting the nervous system (11 percent), and injuries (8 percent) accounted for most of the remaining visits.

The average number of visits per child and the reason for the visit changed as children moved from infancy through adolescence. Babies, those not yet a year old, were taken to a doctor's office an average of 5.9 times a year. Half of those visits (49 percent) were for routine care, 13 percent for acute upper respiratory conditions, 7 percent for infectious and parasitic conditions, and 6 percent for ear conditions. Injuries accounted for 2 percent of the visits.

Older preschool children were taken to a doctor's office 2.4 times a year. Only a quarter (24 percent) of the visits were for routine care. Injuries accounted for 6 percent of the visits. Acute upper respiratory conditions accounted for 21 percent of the visits, and ear conditions accounted for 12 percent.

From the start of elementary school at 6 years of age through 15 years of age, children visited a private physician an average 1.5 times a year during 1975–76. Most of these visits were for illness or injury. Routine care accounted for less than a fifth of the visits, and injuries were a major reason for taking a school boy to the doctor. Eleven percent of the visits elementary school boys made to a doctor's office and 16 percent of the visits boys 12–15 years of age made were for injuries.

At about 16 years of age, there is a change. Through all the years of childhood and early adolescence, boys make more visits to doctors than girls—mostly because they have more injuries. In later adolescence, 16–17 years of age, girls make more visits than boys. Some girls at this age receive prenatal care (about 11 percent of all visits to private physicians made by girls 16–17 years of age were for prenatal care), and it is likely that some of the visits for examination and observation were for suspected pregnancy.

Data from the Hospital Discharge Survey show that children and youth use far less inpatient medical care than adults. The average child spent only 29 percent as many days in the hospital during 1975–76 as a working-age adult and only 8 percent as many as an adult 65 years of age and over.

During 1975–76, there were 352 days of short-stay hospital care per year for every 1,000 children under 18 years of age. Of these 352 days, 274 were for diseases and conditions, 65 for injuries, 14 for deliveries,

and only 3 for examinations and observation without illness.

On the average, infants under 1 year of age spend more time in the hospital than older children. Excluding the routine hospitalization at the time of birth, there were 1,266 hospital days per year during 1975–76 for each 1,000 infants. The rate of utilization is high because of the long hospitalizations of infants in distress at birth. The average length of stay of infants hospitalized for perinatal morbidity resulting from maternal conditions, difficult labor, birth injuries, etc., was 14.2 days. It is not unusual for such infants to be hospitalized for a month or more. Pneumonia, however, accounted for more hospital care for infants than any other single condition—540,000 days each year—and all respiratory conditions together accounted for 1,265,000 days each year.

Among preschool children as among infants, respiratory conditions were the most common reason for the child being in the hospital; 35 percent of all the days preschool children spent in the hospital were because of respiratory conditions, and about a third of those days were because of pneumonia (11 percent of the total). At this age, however, injuries were the second most common reason for the child being in the hospital. Injuries accounted for 16 percent of the days preschool children spent in hospitals. Children hospitalized for injuries stayed longer than other children—an average of 5.1 days.

Among elementary school children and young adolescents, injuries were the most common reason for the child being hospitalized. About one-quarter of these children in the hospital on any given day were there because of an injury (25 and 23 percent for children 6–11 years of age and 12–15 years of age, respectively). Respiratory conditions were still a major reason for elementary school children being in the hospital (19 percent of the days), but they were less important for adolescents 12–15 years of age (10 percent).

In later adolescence, injuries and childbirth were the most common reason for the young person being in the hospital. Injuries accounted for 22 percent and childbirth for 16 percent of the days youths 16–17 years of age spent in the hospital. On any given day, 38 percent of the boys were in the hospital because of an injury, and 27 percent of the girls were there because of childbirth.

Most hospitalization for pneumonia among children, childbirth among adolescent girls, and perinatal conditions among newborns resulting from poor uterine or delivery circumstances could be avoided in this country if present knowledge and preventive care were equitably and energetically applied.

RESOURCES

The need for medical care is not the only determinant of utilization. The use of medical services is inextricably intertwined with the availability of services and the ability to pay for them.

One recent report states that there is a maldistribution of physicians in the medical specialties and a shortage of doctors providing primary care (National Research Council, 1976), and another states that "there are not enough of the right kind of doctors and other medical personnel in the right places to adequately respond to the health care needs of children" (Harvard Child Health Task Force, 1977). The latter report goes on to say that in 1931 there were 18.6 full-time equivalent physicians per 100,000 population who devoted time to the primary care of children, but the ratio had declined to 11.3 in 1973. This estimate depends on the premise that only office-based pediatricians, general internists, family practitioners, and general practitioners provide primary care to children. These are the primary care physicians designated under the Health Professions Educational Assistance Act of 1976 (Public Law 94–484).

However, physicians in office-based practice who are not designated as primary care physicians and physicians in institutional settings, such as hospital outpatient departments and emergency rooms, clinics, and other settings, are also providing primary care to children. Children are actually receiving more medical care than they used to, although it is possible that a smaller proportion of the care is from physicians designated as primary care physicians.

There is a maldistribution of physicians as measured by physicians to population ratios. The ratio of office-based pediatricians to children, of obstetricians to women of childbearing ages, or of all office-based physicians to the population of all ages is higher in metropolitan areas than outside of metropolitan areas and highest in the core counties of large metropolitan areas (NCHS,1977c). Nevertheless, children in central cities are less likely to receive care from an office-based physician than children outside metropolitan areas. A study of utilization rates in nonmetropolitan areas designated as Medically Underserved Areas showed that use of medical services was as high in these areas as in other nonmetropolitan areas although children were less likely to have had a routine physical examination and women less likely to have had early prenatal care in the designated Medically Underserved Areas than in other nonmetropolitan areas (Kleinman and Wilson, 1977).

The relative ratio of physicians (or other resources) does not seem to provide a useful indicator of their availability when evaluated by utilization rates. There may be many barriers which make the resources inaccessible even though they are theoretically available.

Some of the Federal programs that have been designed to make medical care available have done so by directing resources toward "shortage" areas. Some provide services to children with a specified disease or condition. Others have operated by increasing the ability to pay for care. Some have used a combination of approaches.

The effect of the design and implementation of these programs can be to limit who is allowed to receive care under the program by specifying the location, the diseases or conditions which may be treated, the family structure, or the income level of the population.

For example, the Crippled Children's Services programs provide services only to children who have certain crippling conditions and are directed primarily to children in rural areas. The Children and Youth programs are designed to provide comprehensive preventive care only in areas with high concentrations of low income families. The Medicaid program is designed to provide basic medical services to low income people regardless of where they live but only if the child has no father in the household.

The *Status of Children, 1977* (Office of Human Development Services, 1978) contains a list of Federal programs with an impact on children and brief descriptions of some of the programs, their expenditures, and the estimated number of people they serve. There are 12 programs listed for the Department of Health, Education, and Welfare alone. Programs in other agencies, such as the programs in the Food and Nutrition Service of the Department of Agriculture, are also health related.

The length of the list, the variability in criteria for receiving services, the overlapping categories, and the gaps in coverage demonstrate the fragmentation of Federal programs and the near impossibility of determining whether these programs make resources available to the children who need them.

The Federal agencies responsible for administering the programs report the amount of money spent and usually the number of children served. There is rarely any evaluation of what proportion of the children who need services are reached by a program.

Since Medicaid is the only public program providing a sizable amount of money for the medical care of children, it is worthwhile to examine its impact in more detail. More than half (54 percent) of the $4,690 million from public funds spent on the health care of children under 19 years of age in fiscal year 1976 was the $2,511 million from Medicaid, with $1,369 million from the Federal Government and $1,141 million from State and local governments. The program for maternal and child health services under Title V of the Social Security Act spent approximately $500 million that year, which was substantially less than the $800 million spent by the Department of Defense for dependent minors of military personnel. Other programs provided another $876 million. Approximately $35 million of that was paid by the Medicare program in behalf of about 1,900 enrollees under 19 years of age, almost all of whom

had end-stage renal disease (Gibson, Mueller, and Fisher, 1977).

One Medicaid-related program which has been evaluated is the Early and Periodic Screening, Diagnosis, and Treatment Program (EPSDT). The Social Security Amendments of 1967 (Public Law 90–248) required implementation of EPSDT by July 1, 1969. Despite that requirement, final regulations did not become effective until February 7, 1972.

When the General Accounting Office examined steps taken to implement EPSDT in 8 States, it reported that, as of June 30, 1973, about 1.8 million children eligible for Medicaid resided in these States. Of the 8 States, 3 had not even started screening, and the other 5 had screened only 58,000 children. The General Accounting Office recommended that the Department of Health, Education, and Welfare take more aggressive action to bring the States into compliance (Comptroller General of the United States, 1975).

Nevertheless, while the screening rates increased between 1973 and 1976, only 25.8 percent of the screenings needed, according to the American Academy of Pediatrics' screening schedule, were actually performed in 1976 (Children's Defense Fund, 1977). The fact that the screening had been performed, however, did not mean that the child received treatment for any conditions discovered. Some children were referred to other agencies for treatment without followup to determine whether treatment was received. Some children became ineligible for Medicaid without ever receiving care.

Thus the resources, essentially preventive, that one Federal program was designed to provide have not yet been made available to the majority of the children who could benefit from them.

Nor has the Medicaid program been completely successful in reducing or eliminating differentials in accessibility, availability, and quality of medical care by reducing the financial barriers for low income families.

While national data show that differentials between the "poor" and "nonpoor" children's use of ambulatory care have decreased, they have by no means been eliminated (Wilson and White, 1977). As has already been discussed, differentials among income groups in both the proportion of children receiving care and the place of care still exist. Also, one study has shown that, although people enrolled in Medicaid appreciated the help, Medicaid did not change their health care pattern. To some extent, this was because the enrollees did not try to find a private doctor or change their source of care, but another reason was that many private physicians refused to care for Medicaid enrollees once reimbursement was changed from the customary fee to a fee set lower than the customary one (Haggerty, Roghmann, and Pless, 1975).

Two recent national studies based on supplements to the Health Interview Survey help to provide insight into the contribution Medicaid makes to the family's ability to pay for medical care for children. In 1976, questions designed to elicit information on whether services for those people who were without private health insurance would be paid for by Medicaid, Medicare, the Civilian Health and Medical Program for the Uniformed Services (CHAMPUS), or by professional courtesy were added to the standard questions on coverage under private health insurance. Of all children and youth under 18 years of age, 74 percent were covered by private health insurance, 10 percent were covered under Medicaid, and 3 percent would have services paid for through CHAMPUS or professional courtesy. Twelve percent had none of the specified forms of coverage for medical care, and 1 percent had unknown or not clearly specified coverage.

As previously demonstrated in other surveys, coverage under private health insurance was strongly associated with family income; the percent of children covered ranged from 25 percent when the family income was less than $5,000 to 92 percent when the family income was $15,000 or more. The level of coverage under private health insurance was high for white children, suburban children, and those in the Northeast and North Central regions. It was also higher for school-age than preschool children.

Medicaid coverage was generally highest among those groups least likely to be covered by private health insurance. Forty-seven

percent of the children and youth in families with incomes less than $5,000 were reported to be covered by Medicaid, as were 30 percent of the black children and 19 percent of the children in central cities. However, children in the Northeast, where coverage levels under private health insurance were also relatively high, were still more likely to have Medicaid coverage than children in other regions where private health insurance coverage was less extensive.

The other two forms of protection against medical bills considered in the survey, CHAMPUS and professional courtesy, were rare enough that together they provided protection for less than 4 percent of any population group except in the South and West where about 5 percent of the children under 18 years of age were covered.

There were groups of children for whom none of these four methods of paying for medical care were available. About 26 percent of the 7 million children in families with incomes less than $5,000 and 21 percent of the 13 million children in families with incomes of $5,000–$9,999 had none of the specified forms of coverage. Although Medicaid coverage was reported for 47 percent of the children in families with incomes less than $5,000 and 16 percent of the children in families with incomes of $5,000–$9,999, substantial segments of the children in these low income groups had no third-party coverage. Medicaid coverage was not prevalent enough to compensate for the lack of private health insurance coverage for these children. Unfortunately, in these low income families, personal resources to pay bills are not likely to be available.

Lack of coverage for medical care was especially common for children in the South (18 percent), for black children (16 percent), and for children outside metropolitan areas (16 percent)—the geographic and racial categories with relatively high proportions of low income families.

The second study, in 1974, determined how the bills were paid for the 50 million children and youth who had at least one ambulatory medical contact during the year. All or part of the bill was paid out-of-pocket by the family for 79 percent of the children, private health insurance helped pay for the bills of 27 percent of the children, public funds helped pay for 15 percent, and other or unknown sources were used for 6 percent. Medicaid paid all or part of the bills for 5.5 million children—11 percent of the children who used ambulatory medical services in 1974.

The estimate of the number of children who were Medicaid recipients is lower than the unduplicated count of approximately 10 million recipients from the Medicaid program. There are several possible explanations. The survey data included only children under 18 years of age, while the program data included those under 21 years of age. The survey data excluded children in long-term institutions, some of whom are covered under Medicaid, and they excluded any children who had a short-term hospitalization covered by Medicaid but no ambulatory care. Inclusion of all of these categories would raise the estimated number slightly. It is more likely that the unduplicated count from the Medicaid program is too high. It is difficult to produce an unduplicated count from a program where enrollment changes rapidly, and the count was based on estimates from only 8 States for fiscal year 1975 (National Center for Social Statistics, 1977).

In the low income families (less than $5,000), Medicaid helped pay the bills for 52 percent of the children who had some ambulatory medical care. Other sources also helped to pay the bills, but there were still some out-of-pocket expenses for 43 percent of the children in these poor families. In families with incomes of $5,000–$9,999, Medicaid helped pay the bills for 16 percent of the children and youth, 23 percent had help from private health insurance, and 74 percent paid at least part of the bills directly. Children in these families were also less likely to have had ambulatory medical care during the year than children in families with incomes of $10,000 or more. In the higher income families, 85–90 percent of the children had some part of the medical bills paid directly by the family.

The independent estimates from the Social Security Administration on the expenditures from public funds and from the Health

Interview Survey on children whose bills were paid from public funds are remarkably consistent. In fiscal years 1974 and 1975, 13 percent of the money spent to pay doctor bills for children under 19 years of age was public money. In calendar year 1974, 15 percent of the children under 18 years of age, who received ambulatory services from a doctor, had some part of the bill paid from public sources.

Overall, only 26 percent of all money spent on the health care of children and youth in fiscal year 1976 was from public funds. This is a smaller proportion than the 30 percent for adults 19–64 years of age and much smaller than the 68 percent for adults 65 years of age and over (Gibson, Mueller, and Fisher, 1977).

There are many reasons for the differing proportions of medical care paid from public funds among age groups, including program eligibility and the fact that children, who are more likely to be in good health than adults, are less likely to require long periods of expensive inpatient care. The mixture of services needed or used by children is quite different from that needed or used by adults. Young people receive far more of their medical care as ambulatory patients.

Ambulatory services are not as well covered by public programs as inpatient services. Even so, only 13 percent of the expenditures for physicians for people under 19 years of age, compared with 59 percent for people 65 years of age and over, were paid out of public funds in fiscal year 1976. The major public program covering children is Medicaid. Medicaid places more limits on eligibility than Medicare which provides the major coverage for the elderly who can, in addition, be eligible for Medicaid. Unlike Medicare, Medicaid is a State-controlled program and, within limits, it is designed to ensure that specified basic services are available. The States decide which other services to cover and the eligibility criteria.

When many of the people living in a State are poor, there are conflicting demands for relatively little money. One of the consequences is that the services provided under Medicaid may be reduced to the bare minimum. Poor children in poor States will then receive fewer of the benefits the program was designed to provide than poor children in richer States.

In some cases, the rigidity of the regulations also makes it difficult to provide needed services to children. For example, auxiliary medical personnel can often screen children to determine whether a doctor should see the child, and these personnel can provide, on their own, many of the ambulatory care services that are the mainstay of medical care for children. Pediatric nurse practitioners can serve in isolated areas referring children when necessary. They can spend time with the parent or child explaining the treatment and the reason for continuing the medicine even after the child appears to have recovered. They can often speak in words understood by parent and child better than the doctor can. Despite the many advantages, their services may not be covered by either public or private third-party insurance. The child, who does not receive the needed attention, suffers.

SUMMARY

The health of the average child in the United States today is good. It is probably far better than it was when the 1930 White House Conference was held and better than it was when Medicaid and other major Federal programs were implemented.

However, it is not as good as it could be. There are societal reasons for poor health which are beyond the ability of the medical care system or the health component of the Federal government to correct. There are inequalities in access to medical care and problems in quality of care which the health establishment could correct if there was the will to do so. There are also diseases and impairments that cannot be prevented nor cured at present. However, research may eventually discover a means for eliminating some of these problems, too. In the meantime, more equitable and intelligent application of the knowledge already available could do much to improve the health of children and youth.

Poor health status for a child can begin

even before birth. A poor intrauterine environment and lack of good prenatal care, failure to recognize and make plans for the delivery of an infant likely to be in distress when born, a clumsy delivery in an inadequate facility, and the unpredictable occasional major congenital defect can all result in poor health for the newborn. The means are at hand to do something about the first three. Women could be screened early in pregnancy and those found to be at high risk of bearing children in poor health could be assured of prenatal care designed for their needs and encouraged to use it. Services could be planned so that women at high risk could be transported to hospitals with intensive perinatal care units and other facilities. Doctors and facilities could be licensed only for the services they are capable of delivering well.

Poor health can result from lack of appropriate care at any point in childhood. Failure to receive care when needed or failure in diagnosis, treatment, or followup can all result in poor health. However, expensively trained physicians are not required for all of the routine care, initial screening, and counseling to strengthen the parent's ability to care for the child. It has been repeatedly demonstrated that physician extenders (nurses, auxiliaries, etc.) are capable of providing such services, as long as the highly trained personnel and high level technology are readily available if needed.

Redesigning programs so that children needing care are not excluded because of programmatic regulations or implementation would also help those children currently missed by the system. Integration and coordination of existing programs could ensure that the record of a condition diagnosed in one program went with the child to another and that needed treatment was provided. Comprehensive programs could be introduced where feasible.

Children, with certain exceptions for adolescents, cannot legally assume responsibility for the decisions about whether they will obtain medical care or for payment of medical bills. Those decisions are made by adults—almost always parents or other adult family members. Thus, helping the parents make wise decisions about their children and, where necessary, helping them implement those decisions either directly through provision of services or indirectly through making it possible to use the services available will benefit the child.

It is possible to continue the overall improvements in children's health that have occurred in the past 50 years and to improve the health of some groups of children more rapidly. The technical knowledge is available, but it is not solely a medical problem—many of these children live in inadequate physical or social environments with poor or poorly-educated parents. Better and more easily available medical care for these children is only part of the prescription for improving their health.

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CHAPTER IV

Mental Disorders[a]

Mental disorders[1] affect an estimated 15 percent of the U.S. population in any given year—almost 32 million people in 1975. The enormous human and economic costs of mental disorders have elicited great national concern, most recently articulated by the President's Commission on Mental Health (1978). The Commission estimated the direct cost of mental health services for 1976 to be about $17 billion, representing approximately 12 percent of our total national health costs. In addition, a recent study showed that the mentally ill have higher than normal rates of physical illness and use general medical services at about double the rate of the mentally well (Regier et al., 1977).

As the Nation grows so does the number of people with mental disorders, a fact that demands increased attention to both the prevention and the early, appropriate treatment of mental illness. In the recent past, many changes have been made in the mental health service system in an attempt to make it more responsive to all who need it while reducing the costs of care. Although much work remains to be done, considerable progress can be documented.

The following discussion describes more closely the scope of mental illness in the Nation and outlines some of the major characteristics of the mental health service system and those who use it. Recent trends that have shaped that system are described, paying particular attention to selected issues of current policy interest.

SCOPE OF THE PROBLEM: PREVALENCE OF MENTAL DISORDERS

A basic and seemingly simple question often asked of mental health experts is: How many people have mental disorders in the United States? Unfortunately, firm answers are hard to obtain. Epidemiologists responsible for obtaining such information have been hampered by several problems, including disagreement about the criteria for diagnosing mental disorders and difficulty in obtaining

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[1] "Mental disorder" means the organic and functional psychoses, neuroses, personality disorders, alcoholism, drug dependence, behavioral disorders, mental retardation, and other disorders identified within Section V of the International Classification of Diseases Nomenclature (ICDA). Excluded are "problems of living" and emotional symptoms that are sometimes counted in surveys and anecdotal reports as instances of "mental illness."

NOTE: Unless otherwise noted, all data shown in this chapter are derived from publications of the Division of Biometry and Epidemiology, National Institute of Mental Health, Alcohol, Drug Abuse and Mental Health Administration. A more extensive and comprehensive review of the problems associated with alcohol abuse and alcoholism will appear in the *Third Special Report to Congress on Alcohol and Health.* Activities supported by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) are included in the NIAAA *Sixth Annual Report to Congress.*

reliable case identification data when communities of untreated people are surveyed. Many of these technical problems are being overcome, but current epidemiological data reflect these longstanding problems. Still, it is possible to obtain some rough estimates of the proportion of the U.S. population affected by these disorders, either at one point in time (point prevalence) or over a given period of time (period prevalence), and to describe the rate at which new cases develop (incidence).

The best current estimate of the prevalence of mental disorders is that at least 10 percent of the U.S. population is affected by mental disorders at any given point in a year. This conclusion is based on the findings of several different studies. Most of the data on prevalence are based on surveys that provide a rate of mental disorder for a given community at one given point in time (point prevalence). A 1954 survey of the noninstitutionalized population of Baltimore, Md. (Pasamanick et al., 1956) found that at any given point in the year 10 percent of the total population of all ages had a mental disorder. Using different case identification criteria, a 1954 study (Srole et al., 1962) found that 23 percent of the population 20–59 years of age was affected by a serious psychiatric impairment at any point in time. In 1967, a study in New Haven, Conn., (Tischler et al., 1975) found a point-prevalence rate of about 16 percent for mental disorders in the population 20 years of age and over. A recent resurvey (Weissman, Meyers, and Harding, 1977) of the same population indicated that 15.1 percent had definite mental disorders, and an additional 2.7 percent had probable disorders, equaling 17.8 percent of the population now 26 years of age and over with some form of mental disorder (Regier, Goldberg, and Taube, 1978). Such studies, although useful, do not specify how many people are mentally ill within a given time period, for instance, a year (annual-period prevalence). To obtain such data, one must account not only for the point prevalence but also for the rate at which new cases develop (annual incidence).

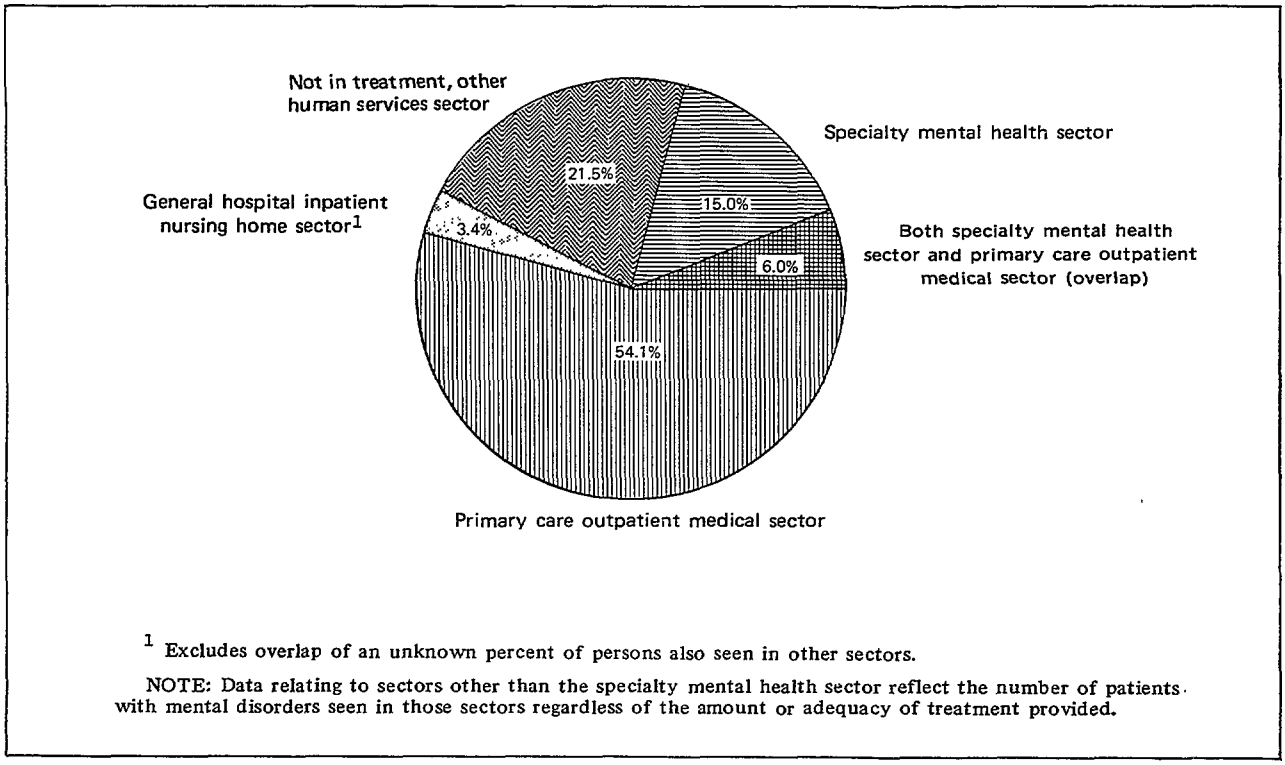
Although studies of the incidence of mental disorders are extremely rare, a 5-percent annual rate of new cases for the Nation can be extrapolated from the rate of new, treated cases in a community-wide psychiatric case register (Regier, Goldberg, and Taube, 1978).

Using the results of the study with the lowest point-prevalence estimate (10 percent) and adding another 5 percent for new cases during the year, the annual-period prevalence of all mental disorders in the United States is conservatively at least 15 percent of the population per year, or 31,955,000 persons in 1975 (figure 1 and Part B, table 99). In the future, when newer and more precise case identification methods are used in large-scale population studies, evidence will probably mount for point-prevalence rates of at least 15 percent, with annual-prevalence rates of more than 20 percent of the population.

SERVICE DELIVERY SYSTEM, 1975

Mental health treatment, once long term in nature, is today predominantly acute. Accordingly, the locus of care is shifting from inpatient to outpatient settings. The volume of treatment episodes in organized mental health settings has quadrupled in the last 20 years, an increase largely attributed to growth in outpatient and day treatment programs.

In 1955, only one-fourth of the treatment episodes were in outpatient settings; by 1975, outpatient episodes accounted for three-fourths of the total. By 1975, the use of inpatient versus outpatient services of mental health facilities resembled that of general health facilities (Part B, table 117). Length of stay in mental health inpatient settings had also become more comparable to that in general health settings. Between 1971 and 1975, the number of days of care in mental health inpatient settings decreased by 32 percent (Part B, table 116). Particularly striking changes occurred in State mental hospitals, where the average length of stay declined by 45 percent for the same period. The median length of stay for admissions to these hospitals in 1975 was 26 days, a noticeable departure from the custodial character of these institutions in the past.



[1] Excludes overlap of an unknown percent of persons also seen in other sectors.

NOTE: Data relating to sectors other than the specialty mental health sector reflect the number of patients with mental disorders seen in those sectors regardless of the amount or adequacy of treatment provided.

Figure 1. Estimated percent distribution of persons with mental disorders, by treatment setting: United States, 1975

Historically, services for treatment of mental disorders have relied heavily on government sources for funding. While changes in funding patterns have occurred over the last 20 years, government funding still accounts for half of the mental health program expenditures but only about one-third of other health program expenditures. Direct out-of-pocket payments are similar for mental health and other health services, but more than 25 percent of other health expenditures is paid for by private insurance, as opposed to around 13 percent for mental health services (Wallack, 1978).

Settings

Treatment services for people with mental disorders are provided in both general health settings and in specialty settings for mental disorders, such as freestanding outpatient psychiatric clinics, general hospital psychiatric services, psychiatric hospitals, residential treatment centers for emotionally disturbed children, federally-funded community mental health centers, and the office-based practices of mental health professionals (figure 1 and Part B, table 99).

In 1975, the specialty mental health sector provided the only mental health care to about 15 percent of the mentally ill, or an estimated 5 million people, while the general health sector provided some diagnostic and treatment services to an additional 57 percent, or 17 million people (figure 1 and Part B, table 99). These two health care systems overlapped for an additional 6 percent of the mentally ill, or 2 million people who sought care for their disorders in both sectors. About 22 percent of the mentally ill, or 7 million people, were not treated or seen in either sector, although some of these may have received care from other elements of the human services sector or from nontraditional "mental health" care sources.

Of the almost 7 million people treated annually in the specialty mental health sector, about 2 million of whom were also seen in the general health care sector, almost half

were seen in freestanding outpatient mental health clinics and in federally-funded community mental health centers.

Characteristics of Admissions to Specialty Mental Health Settings, 1975[2]

Admissions to specialty mental health settings in 1975 were characteristically concentrated in the middle age groups, with 40 percent in the group 25–44 years of age and 19 percent in the group 45–64 years of age. The group 65 years of age and over constituted only 5 percent of the total, while the group under 18 years of age accounted for 18 percent, and the group 18–24 years of age, 17 percent.

The admission rates of various age groups showed a similar pattern when rank ordered and controlled for their differing representation in the population at large. The group 25–44 years of age still had the highest admission rates and the group 65 years and over, the lowest. However, the group 18–24 years of age was second highest, and the group 45–64 years of age, third.

Male admissions slightly outnumbered female admissions overall, although there were notable exceptions where females outnumbered males, primarily in outpatient psychiatric services and in private inpatient facilities, such as private mental hospitals and private general hospitals. The male admission rate was slightly higher for all ages and for all age groups, except the group 25–44 years of age. For the group under 18 years of age, the male admission rate was almost 150 percent higher than the female rate; for the group 45–64 years of age, it was approximately 20 percent higher; and for the group 18–24 years of age, 10 percent higher.

Compared with their distribution in the population at large, minority races were overrepresented in admissions to specialty mental health facilities; when compared with white people, 30 percent more minority group members of all ages were admitted, with an excess of at least 20 percent for each age group. The proportion of minority races admitted to various types of facilities was quite diverse, ranging from a low of 8 percent for private mental hospitals to a high of 23 percent in State and county mental hospitals (i.e., public facilities).

The two most frequent diagnoses for all 1975 admissions were depressive disorder, accounting for 17 percent, and schizophrenia, accounting for 16 percent. This varied considerably by sex, race, age, and type of facility, however. For males, alcohol disorder was the leading diagnosis, followed by schizophrenia, accounting for 18 and 17 percent, respectively. For females, depressive disorder was the leading diagnosis, accounting for 23 percent of the total admissions, followed by schizophrenia, accounting for 15 percent. For white people, depressive disorder was the most frequent diagnosis, whereas for those of all other races, schizophrenia accounted for a much higher proportion of admissions (23 percent) than for white admissions. This discrepancy may represent bias in the diagnostic process rather than a true difference in the prevalence of this disorder among racial groups (Simon et al., 1973).

For the group under 18 years of age, childhood disorders and transient situational disorders of adolescence accounted for more than half of the admissions and were the first- and second-ranked diagnoses. In the group 18–34 years of age, schizophrenia was the leading diagnosis, followed by depressive disorder. In the group 35–44 years of age, depressive disorder was the leading diagnosis, followed by schizophrenia. In the group 45–64 years of age, alcohol disorder ranked first, followed by depressive disorder. In the group 65 years of age and over, depressive disorder was the leading diagnosis, accounting for 35 percent of the total admissions, followed by organic brain syndrome, accounting for 31 percent.

The diagnostic characteristics of patients

[2] This section is based on data on admissions to inpatient services of public and private mental hospitals, psychiatric units in general hospitals, discharges from Veterans Administration psychiatric inpatient services, and all admissions to community mental health centers and outpatient psychiatric services—both freestanding and affiliated services. These settings include about 95 percent of the admissions to specialty mental health services.

admitted to inpatient versus outpatient settings in 1975 differed appreciably, reflecting differing treatment needs and the distribution of these disorders by age. Outpatient services, for example, had a much higher proportion of patients with mental disorders characteristic of younger age groups, such as childhood disorders, transient situational disorders of adolescence, neuroses, and personality disorders. Inpatient services contained a much higher proportion of patients with organic brain syndromes, depressive disorders, and schizophrenia.

The median length of stay for admissions to State and county mental hospitals in 1975 was 25.5 days, compared with 19.8 days for admissions to private mental hospitals. General hospital psychiatric units had notably brief lengths of stay, with 8 days for public general hospital units and 14 days for private units. Variations in length of stay depended on patients' ethnicity, age, diagnosis, and payment sources. Females generally stayed slightly longer than males, particularly in State and county mental hospitals where the average length of stay for women was 33 days, as opposed to 23 days for men. This discrepancy probably arises because alcoholic disorders, usually requiring shorter stays than other diagnoses, are considerably more frequent among male than among female admissions. White people in public facilities generally had shorter stays than those of all other races, but the reverse was true in private facilities. Compared by age group, the longest inpatient stays occurred in the youngest and oldest age groups.

RECENT TRENDS IN THE SERVICE SYSTEM

The mental health services system is an amalgam of historical trends of recent and distant origin, which continue to influence its form and functions. Understanding these trends is a prerequisite for effective planning and improvement of mental health care in the future. In following sections, major trends will be described.

Declining Role of the State Mental Hospital

State and county mental hospitals have undergone significant change since 1955, when the resident population in these facilities began to decline—a decline that has continued to the present. Between 1955 and 1975, the number of residents fell from an alltime high of 559,000 to 191,000. During this period, State hospitals, which had accounted for 49 percent of the total inpatient and outpatient episodes[3] in the country, fell to a low of 9 percent of all episodes (Part B, table 117). Clearly, the locus of care had shifted.

The decline in the resident population of State mental hospitals is related to many factors, including:

- Increased availability and use of alternate care facilities for the aged.
- Increased availability and use of outpatient and aftercare facilities.
- Development and use of psychoactive drug treatment.
- Gradual reduction in the length of stay for admissions.
- Greater use of community mental health centers and their affiliation with State mental hospitals.
- Development of effective screening procedures to prevent inappropriate admissions.
- Changes in State legislation regarding commitment and retention in facilities.
- Deliberate administrative efforts to reduce the inpatient population.

These highly interrelated factors affected

[3]"Patient care episodes" are defined as the number of residents in inpatient facilities at the beginning of the year (or the number of persons on the roles of noninpatient facilities) plus the total admissions to these facilities during the year (i.e., new admissions, readmissions, and returns from long-term leave). This index, therefore, provides a duplicated count of persons and is not equal to a true annual-prevalence rate or the annual prevalence of treated mental disorder, which would require an unduplicated count of individual persons.

the rates for admission, readmission, and duration of stay, which in turn caused changes in the number and composition of the inpatient population.

While the resident population began diminishing in 1955, the annual number of additions (i.e., admissions, readmissions, and returns from leave) to State mental hospitals increased yearly until 1971. Since then, the number of additions has decreased steadily each year, falling 6 percent between 1971 and 1975. This decline reflected changes in the number of returns from leave, first admissions, and readmissions (figure 2).

The phenomenon of the "revolving door" of readmissions to State and county mental hospitals has elicited considerable concern in recent years. While the number of total admissions fell between 1972 and 1975 (in part, because of declining new admissions), the number of readmissions in 1975 was just slightly higher than the 1972 figure and remained at a high level of almost 70 percent for all admissions. The high number of readmissions might at first seem to be readily explained by the growth in the number of released mental hospital patients who constituted the population theoretically "at risk" of readmission. However, the readmission rate per 1,000 released patients rose from 174 to 197 between 1969 and 1975 (table A). Thus other factors were involved. One factor was a shift from the use of long-term leave status to outright patient discharge, so that people needing rehospitalization were counted as readmissions rather than as returns from leave. Another possible factor, requiring further study, was a tendency to release some patients without assurance that adequate alternate care arrangements had been made. It is important to remember, however, that the high readmission rate to State and county

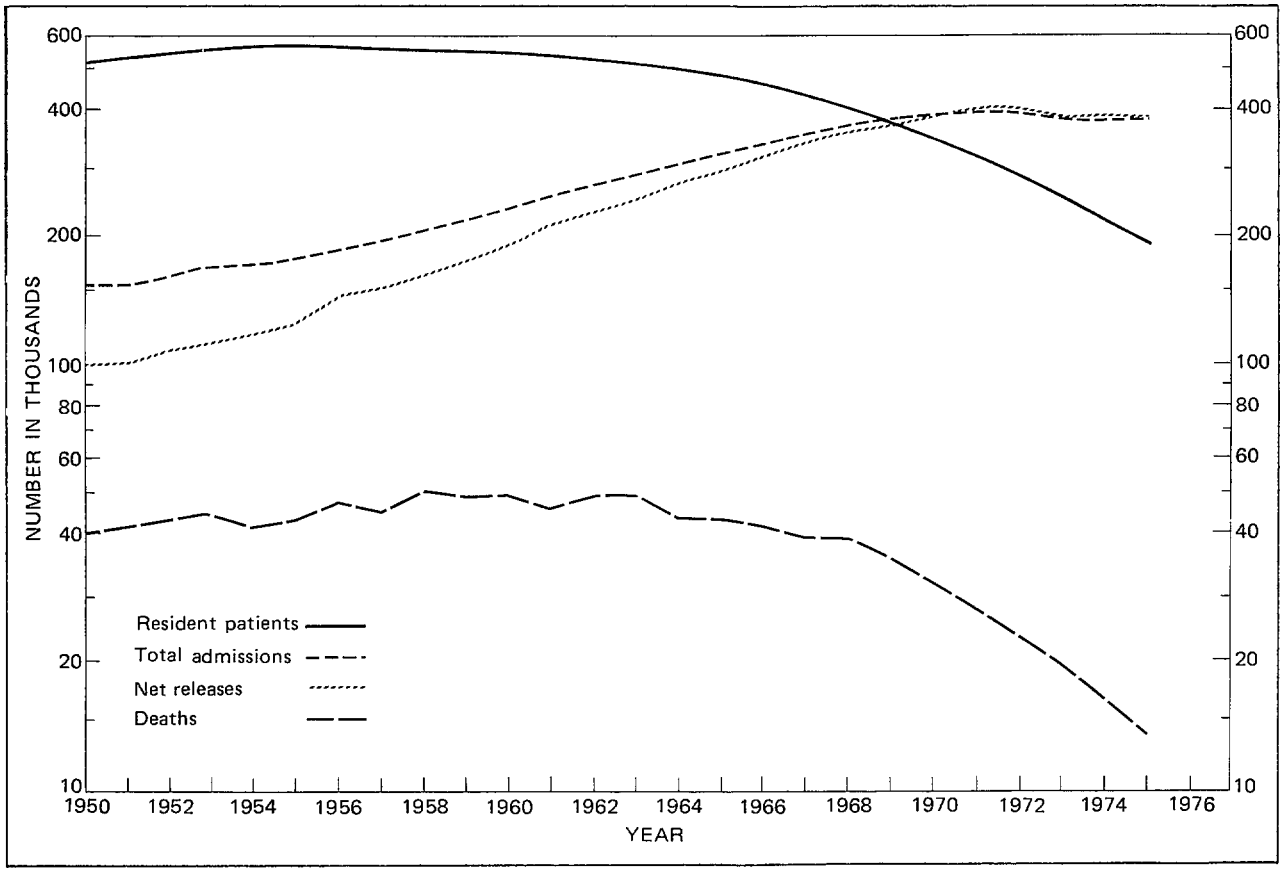


Figure 2. Number of resident patients, total admissions, net releases, and deaths in State and county mental hospitals: United States, 1950-75

Table A. Readmission index and percent change for State and county mental hospitals: United States, 1969, 1972, and 1975

Component of readmission index	Index year			Percent change	
	1969	1972	1975	1969–72	1972–75
Net live releases in 3 years prior to index year	995,834	1,188,104	1,179,977	19.3	−0.7
Number of readmissions during the index year	173,245	217,468	232,272	25.5	6.8
Readmission index (readmissions in index year per 1,000 net live releases in previous 3 years)	174.0	183.0	196.8	5.2	7.5

SOURCE: Division of Biometry and Epidemiology, National Institute of Mental Health: Unpublished data.

mental hospitals in 1975 was not appreciably different from that to other inpatient facilities; for example, 61 percent of the total discharges from general hospital psychiatric units had received prior inpatient psychiatric care.

Changing Locus of Inpatient Care

The rate of total inpatient episodes per 100,000 population increased from 795 in 1955 to 847 in 1975 (Part B, table 117). However, psychiatric case register data indicate that, when these episodes are unduplicated, the rate per 100,000 population of *persons* hospitalized has shown a decrease in recent years (Babigian, 1977). Thus, the declining role of the State mental hospital over the past two decades has not produced less use of inpatient services. Rather, the locus of care has shifted as alternate inpatient psychiatric settings, such as general hospital psychiatric units, have taken over inpatient care functions.

Because of greater use of inpatient settings with a more active treatment focus, the number of days of inpatient care and the number of psychiatric beds have declined. The number of inpatient days per ~~100,000~~ 1,000 population decreased 34 percent, from 750 in 1971 to 496 in 1975. Between 1972 and 1976, the number of beds in inpatient psychiatric facilities declined from 471,800 to 332,127, a 29.6 percent decrease. The corresponding rate of inpatient psychiatric beds per 100,000 population dropped 30.6 percent, from 225.6 to 156.5. Most of the decrease in the number of beds between 1972 and 1976 was attributed to changes within State and county mental hospitals, where the number of beds decreased 39 percent.

If changes in the number of beds in various inpatient facilities are taken as an indication of shifting loci of care, some interesting patterns can be seen. There was a net decrease in the number of psychiatric beds between 1971 and 1975 for all psychiatric facilities, largely as a result of the drop in the number of State mental hospital beds from 361,578 to 222,202. Despite this net decrease, some facilities increased the number of beds during the same period. For example, beds in private psychiatric hospitals rose from 14,412 to 16,091. Even more dramatically, non-Federal general hospital psychiatric unit beds increased from 23,308 to 28,706. These changes are but one indication of the growing role being assumed by these settings in inpatient psychiatric care.

Growth in General Hospital Psychiatry

There was a 23-percent increase in beds in psychiatric units of non-Federal short-term general and special hospitals between 1972 and 1976. This increase contrasts markedly with the decrease in State hospital beds and even exceeds the 9-percent overall increase for general hospital beds for the same period (American Hospital Association, 1976). The increase in the number of general hospital psychiatric unit beds reflects the creation of many new units. There was a 37-percent increase in units between 1971 and 1976 (table B).

Table B. Psychiatric inpatient units in general hospitals and percent change, according to type of hospital: United States, 1970 and 1976

Type of hospital	Number of units		Percent change 1970-76
	1970	1976	
All psychiatric hospital units	766	1,047	37
Veterans Administration	76	89	17
Non-Federal	690	958	39
Community mental health center	103	167	62
Other	587	791	35

SOURCE: Division of Biometry and Epidemiology, National Institute of Mental Health: Unpublished data.

As of January 1976, non-Federal general hospitals maintained 791 inpatient psychiatric units, 303 outpatient psychiatric services, and 176 day treatment programs for psychiatric patients. Veterans Administration general hospitals added another 89 inpatient psychiatric units, 91 outpatient psychiatric services, and 59 day treatment programs. These general hospital separate psychiatric services accounted for 20 percent of the episodes in all specialty mental health facilities in 1975.

The overall role of general hospitals in providing mental health services is much larger, however, than that of their specialty psychiatric services. For example, discharges from non-Federal general hospital psychiatric units numbered 516,000 in 1975, whereas discharges with a primary psychiatric diagnosis from all hospital units numbered 1,494,000. Therefore, there were almost an additional 1 million discharges with a primary psychiatric diagnosis from general hospitals over and above those discharged from specialty psychiatric inpatient units (table C). In addition to the 1.5 million discharges with a primary diagnosis of mental disorder, an additional 1 million discharges in 1975 had a second-to-fifth-listed diagnosis of mental disorder with a nonpsychiatric primary diagnosis. In total then, 2.5 million of the 34 million discharges from non-Federal general hospitals, or 7 percent of the total, had one diagnosis or more of mental disorder (NCHS, 1978).

The number of discharges with a primary diagnosis of mental disorder increased 42 percent between 1971 and 1975, compared with an increase of 16 percent in total discharges from general hospitals. The number of discharges with a secondary but not a primary diagnosis of mental disorder increased 52 percent during the same time period (NCHS, 1978). The differential increase in secondary psychiatric diagnoses may reflect the increasing liaison role of psychiatric departments with medical-surgical departments as well as a continued increase in insurance coverage for mental disorders.

Table C. Distribution of discharges, excluding newborns, from non-Federal short-stay hospitals, according to whether or not primary or secondary diagnosis was a mental disorder: United States, 1975

Diagnosis	Number of discharges
All discharges	34,042,589
Primary diagnosis (1st listed)	
Psychiatric	1,493,872
Nonpsychiatric	32,548,717
Secondary diagnosis (2nd–5th listed)	
Psychiatric	1,504,442
Nonpsychiatric	32,538,147

SOURCE: National Center for Health Statistics: Unpublished data.

Increased Provision of Care in Organized Mental Health Outpatient Settings

During the past 20 years, mental health care has become increasingly synonymous with outpatient care. The number of outpatient episodes in organized mental health settings increased from less than 400,000 in 1955 to more than 4.5 million in 1975, a growth far exceeding that experienced for inpatient services. The rate of outpatient episodes per 100,000 population increased from 233 to 2,185 between 1955 and 1975. As a result, outpatient care is now the predominant mode of mental health care. In

1955, 77 percent of the total episodes within organized mental health settings were inpatient; in 1975, the situation was reversed, with 72 percent of the total episodes in outpatient services (Part B, table 117).

Organized outpatient mental health services may be categorized by their organizational location as follows:

- Freestanding outpatient clinics that are not administratively part of or affiliated with an inpatient psychiatric facility.
- Outpatient services affiliated with psychiatric hospitals, both public and private.
- Outpatient psychiatric services of general hospitals.
- Outpatient psychiatric services of other mental health facilities, such as residential treatment centers for emotionally disturbed children, outpatient services of federally-funded community mental health centers, and clinics of the Veterans Administration.

Of the total 2,329 outpatient mental health services in the United States as of January 1976, approximately 10 percent were affiliated with psychiatric hospitals, 17 percent were affiliated with general hospitals, 46 percent were freestanding psychiatric services, 23 percent were affiliated with federally-funded community mental health centers, and 4 percent were affiliated with other types of mental health facilities. Dual affiliation with a general hospital and a community mental health center are counted with the latter (Part B, table 141). Ninety percent of the absolute increase of 1,002,824 outpatient admissions between 1971 and 1975 was equally distributed between two types of outpatient settings: freestanding outpatient services and outpatient services of community mental health centers (Part B, table 118).

Growth in Role of Nursing Homes in Care of Mentally Ill

One of the major factors contributing to the decline in the size of the State mental hospital resident population has been the growth of the nursing home industry. Changes in the financing of care occurring in the late 1950's and 1960's enabled the cost of caring for the mentally ill aged to be shifted from primarily State support to primarily Federal support under the Medicare and Medicaid programs (Chiles, 1975). These financing changes paved the way for nursing homes to flourish and assume responsibility for long-term care of many chronically mentally ill aged. Between 1954 and 1976, the number of nursing homes increased by about 210 percent, from about 6,500 to 20,185, and the number of nursing home beds grew by almost 730 percent, from 170,000 to 1,407,000 (Glasscote et al., 1976 and Part B, table 142). As Redick (NIMH, 1974) observed:

> "In 1960, 615,000 or about 4 percent of persons 65 years of age and over were . . . in institutions; by the 1970 census, this number had increased to 968,000 and represented 5 percent of all persons 65 and over. At both time periods, over 90 percent of the elderly in institutions were either in mental hospitals or homes for the aged and dependent, but the proportions of elderly in each of the two types of institutions showed a significant shift over the 10-year interval. Between 1960 and 1970, the percentage of institutionalized elderly in mental hospitals decreased from about 30 percent to 12 percent, whereas, the proportion in homes for the aged and dependent increased from 63 to 82 percent."

Between 1969 and 1973, the number of nursing home residents 65 years of age and over with a chronic mental disorder increased more than 100 percent, from 96,000 to 194,000, while the number of residents 65 years of age and over in all types of psychiatric hospitals decreased by 30–40 percent (table D). The net benefit of this trend for the mentally ill elderly has been questioned. Studies of the care provided for these individuals in nursing homes have suggested that

Table D. Resident patients 65 years of age and over in psychiatric hospitals or residents 65 years of age and over with chronic condition of mental disorder[1] in nursing homes and percent change, according to type of facility: United States, 1969 and 1973

Type of facility	Number of residents		Percent change 1969-73
	1969	1973	
State and county mental hospitals	111,420	70,615	−36.6
Private mental hospitals	2,460	1,534	−37.6
VA hospitals[2]	9,675	5,819	−39.9
Nursing homes[3]	96,415	193,900	101.0

[1] Includes mental illness (psychiatric or emotional problems) and mental retardation but excludes senility.

[2] Includes Veterans Administration neuropsychiatric hospitals and general hospital inpatient psychiatric services.

[3] Data on residents with chronic condition of mental disorder used rather than data on residents with primary diagnosis of mental disorder at last examination, since latter data were not available by age in 1969.

SOURCES: Division of Biometry and Epidemiology, National Institute of Mental Health: Selected publications and unpublished data; National Center for Health Statistics: Chronic conditions and impairments of nursing home residents, United States, 1969, by A. Sirrocco. *Vital and Health Statistics.* Series 12-No. 22. DHEW Pub. No. (HRA) 74-1707. Health Resources Administration. Washington. U.S. Government Printing Office, Dec. 1973; and unpublished data.

"reinstitutionalization" rather than a deinstitutionalization to a less restrictive environment has resulted (Glasscote, 1976). As an example of the impact of financing of care on its locus and quality, this phenomenon has important implications for national health insurance planning.

Growth in Federally-Funded Community Mental Health Centers

One aspect of the growth in community-based mental health care has been the development of federally-funded community mental health centers. The number of community mental health centers grew from 205 in 1969 to 528 in 1975 and to 649 in 1977. As noted earlier, the outpatient services of these centers and of freestanding outpatient clinics accounted for 90 percent of the absolute increase in outpatient episodes between 1971 and 1975. In 1975, federally-funded community mental health centers accounted for 29 percent of the total inpatient and outpatient episodes (figure 3).

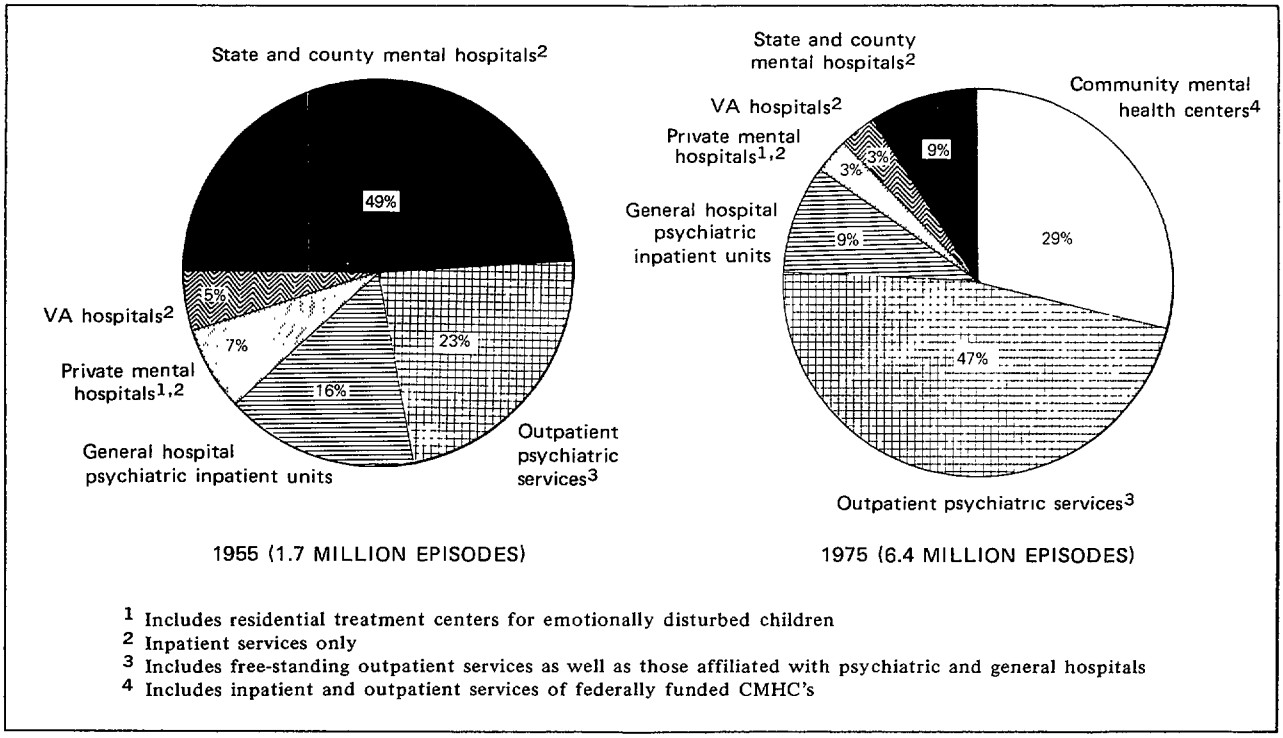


Figure 3. Percent distribution of inpatient and outpatient care episodes in mental health facilities, by type of facility: United States, 1955 and 1975

The growth of community mental health centers (CMHC's) has resulted in a reorganization of existing facilities and an absolute increase in the number of persons served by organized mental health facilities. CMHC's generally are not newly created but rather are formed by the affiliation of existing community resources—usually general hospital psychiatric services and freestanding outpatient and day treatment programs. This was evidenced by the 528 CMHC's in operation in 1975 that encompassed 2,000 affiliated facilities. General hospital psychiatric services have formed a major base for the development of CMHC's as have State- or county-operated or State- or county-supported outpatient services. The State role in the development of CMHC's is demonstrated by the fact that 30 percent of the funding for these CMHC's in 1975 was provided by State governments, an amount equal to that provided by the Federal Government.

In recent years, CMHC's have accounted for the major part of the growth in day treatment services, which were virtually nonexistent 20 years ago. Between 1972 and 1975, the number of day treatment programs increased by 47 percent. CMHC's accounted for 233 (50 percent) of the 469 new day treatment programs, freestanding outpatient psychiatric clinics accounted for 168 (36 percent), and general hospitals accounted for 61 (13 percent).

The numerical increase in day treatment programs has been greatest in CMHC's, which also sponsor the largest programs, averaging 178 annual admissions per program versus 79 annual admissions for other settings. Because of this growth, the CMHC day treatment programs now account for more than half of the annual admissions to day treatment services.

Despite dramatic increases in the numbers of day care programs and admissions to them, day treatment still remains relatively unused in the total spectrum of mental health resources. Of the 6.9 million patient-care episodes in mental health facilities during 1975, only 3 percent, or 230,000 episodes, were in day treatment services.

Growth of Private Sector in Providing Mental Health Services

During the early development of mental health services, public programs were the predominant mode of service delivery. However, this dominance has been eroding at a rapid pace in recent years. The growth in psychiatric services in general hospitals has already been noted (table D).

Similarly, private psychiatric hospitals have grown from 151 in 1968 to 180 in 1975 and have assumed an increasing role in inpatient care. While national trend data are not available, there has probably been a significant increase in the number of people under care of private practitioners (Redlich and Kellert, 1978). The number of people seen in the private office practice of psychiatrists and psychologists has been estimated to be almost 1.3 million, or 20 percent of the total number of people seen in 1975 in the specialty mental health sector (Regier et al., 1978). Indeed when the numbers of people seen in all private settings—both organized and private-office settings—are combined, the resultant number represents about half of the people under care in all organized mental health settings during 1975 (Part B, table 99).

Increasing Attention to Providing Mental Health Services in the Health Sector[4]

Of the total number of people affected by mental disorders in 1975, about 19 million, or more than 60 percent, were estimated to have had contact with a general medical professional during the year. Only about 10 percent of these were estimated to have been seen also in the specialty mental health sector during the year (figure 1) (Regier et al., 1978). Since approximately 76 percent of the U.S. noninstitutionalized population visits a

[4]This section is taken in large part from Regier, D.A., Goldberg, I.D., Taube, C.A.: The de facto U.S. mental health services system—a public health perspective. *Archives of General Psychiatry,* 35(6):685–693, 1978.

physician in one or more settings during a year (NCHS, 1977), this finding is not surprising. However, it does underscore the importance of the health sector as part of the treatment system for the mentally ill.

Special surveys (Locke and Gardner, 1969; Locke, Krantz, and Kramer, 1966; Shepherd et al., 1966) of general practitioners and internists have shown rather consistently that about 15 percent of their patients are recognized as being affected by a mental disorder during periods of 1 month to 1 year, a figure reasonably consistent with the overall annual prevalence of mental illness in the population as a whole. Lower rates were found in industrial clinic settings, and somewhat higher rates were found in hospital outpatient departments (Rosen et al., 1970, 1972).

The rates of mental illness found in these studies were higher than those usually routinely reported within the general health sector. For example, as determined by the National Ambulatory Medical Care Survey, in 1975, only 5 percent of visits to general practitioners, internists, and pediatricians, combined, resulted in a diagnosis of mental disorder (Regier, Goldberg, and Taube, 1978). It is believed that such underreporting results from several factors: Organic illnesses are frequently the problems most presented and constitute the major focal point within nonpsychiatric office practice; some nonpsychiatrist physicians are unable to recognize certain types of mental illness; and many nonpsychiatrists prefer to avoid a mental disorder diagnosis whenever an alternative is available, in part perhaps, to assure that treatment will be covered by health insurance (Regier, Goldberg, and Taube, 1978).

A study of general medical physicians in England (Shepherd et al., 1966) found that 67 percent of their patients with identified mental disorder received some form of treatment directly from the physician. Another 5 percent were referred for specialty mental health care, and 28 percent received no mental health treatment in the year. There is wide variation, however, in what is defined as "treatment" within general health care settings. Some of the U.S. general medical practice studies found that psychotropic drugs were prescribed for 60–80 percent of patients with identified mental disorders, and that "supportive therapy" was provided for up to 96 percent (Rosen et al., 1970, 1972; Locke and Gardner, 1969). It is also obvious that some types of treatments used for patients with identified mental disorders were used for other patients as well. For example, a 1973 survey of visits to office-based physicians revealed that an anti-anxiety or sedative agent was prescribed in 12 percent of these visits, although only 5 percent of these visits were for mental disorder (Balter, 1974).

Even if physicians in general medical practice neither recognize nor treat all of the mental disorders of their patients, it is clear from the National Ambulatory Medical Care Survey that these physicians provide a substantial share of the total volume of mental health services in the United States (NCHS, 1975). Of all visits to office-based physicians resulting in a primary diagnosis of mental disorder, 47 percent were attributed to nonpsychiatric physicians, and 53 percent were attributed to psychiatrists. Likewise, although nonpsychiatrists acknowledged use of a "psychotherapy-therapeutic listening" service in only 2 percent of their visits, compared with 73 percent of psychiatrists' visits, by sheer weight of numbers, nonpsychiatrists accounted for as many as 46 percent of visits and 27 percent of the total time devoted to such therapeutic listening treatment by office-based physicians (Regier and Goldberg, 1976; Brown and Regier, 1977).

SELECTED CHARACTERISTICS OF THE CURRENT DELIVERY SYSTEM

Some significant trends affecting the character of the mental health service system today, and possibly tomorrow, have been previously described. The following critical system characteristics are of particular concern to policymakers: the geographic distribution of mental health services resources, the effects of funding patterns on service setting choices and use, the cultural differences among system users, and the supply and distribution of manpower for mental

health services. While these do not exhaust the list of critical issues, they represent concerns in the forefront of current health policy planning.

Geographic Distribution

By almost any measure one chooses to use, specialty mental health resources are unevenly distributed geographically. Whether one looks at a national, regional, or local community level, resources tend to be clustered in certain areas, while other areas are essentially underserved or unserved. This uneven distribution results in limited or difficult access to mental health services for many who need them.

In general, mental health resources, whether facilities or personnel, tend to be clustered regionally in the Northeast and locally in urban rather than suburban or rural areas. Until quite recently, the location of service facilities and personnel has occurred with little consideration to local service needs and resources. The development of community mental health centers represents an effort at the Federal level to encourage more rational and equitable resource allocation and distribution, although these goals are not easily reached.

Examination of how psychiatric beds are distributed nationally will illustrate some of the current problems of resource distribution. Adequacy of a community's inpatient psychiatric care resources cannot be judged solely by its bed-to-population ratio. However, using this and other measures, it is apparent that there are vast inequities in the distribution of beds which remain unrectified.

Psychiatric beds are distributed reasonably equally when the bed rate per 100,000 is considered by State (figure 4). However, psychiatric beds are more unevenly distributed by State than are general hospital beds. Particular types of psychiatric inpatient facilities show different degrees of uneven bed distribution; beds in psychiatric units in general hospitals are most evenly distributed, and beds in State and county mental hospitals are most unevenly distributed.

The distribution of psychiatric beds by urban-rural areas is also uneven. Compared with urban areas, rural areas and suburban areas have a relatively low rate of community-based psychiatric beds per 100,000 population. Rural psychiatric hospital bed ratios compared with urban area bed ratios are also relatively low, while psychiatric bed ratios in locales outside urban areas, but not rural, are very high, reflecting the historical tendency to locate psychiatric hospitals outside of populated areas.

One of the many objectives of the community mental health center program has been to increase the geographic accessibility of mental health care to the U.S. population. In 1975, however, 12 years after passage of the community mental health center legislation, 104 of the 1,542 geographic catchment areas in the United States still had no mental health services, 647 still had no community-based inpatient mental health service, and 334 had inpatient and outpatient mental health services but no day care or emergency services. The reasons for this are many, but primary among them are the following:

- Funds to support the development of CMHC's in all needy catchment areas have been limited.
- Development of and planning for mental health services are difficult for some areas with scarce resources and may not be given highest priority by some communities.
- Some areas are so sparsely populated that it would not be cost-effective to provide a full range of services to them.

Remedies for this situation have been proposed, most recently by the President's Commission on Mental Health (1978), but these barriers to service development may not be easily overcome.

Funding Patterns and Service Utilization

For many years, there existed a two-class system for mental health care in this country, with the poor being treated in the public

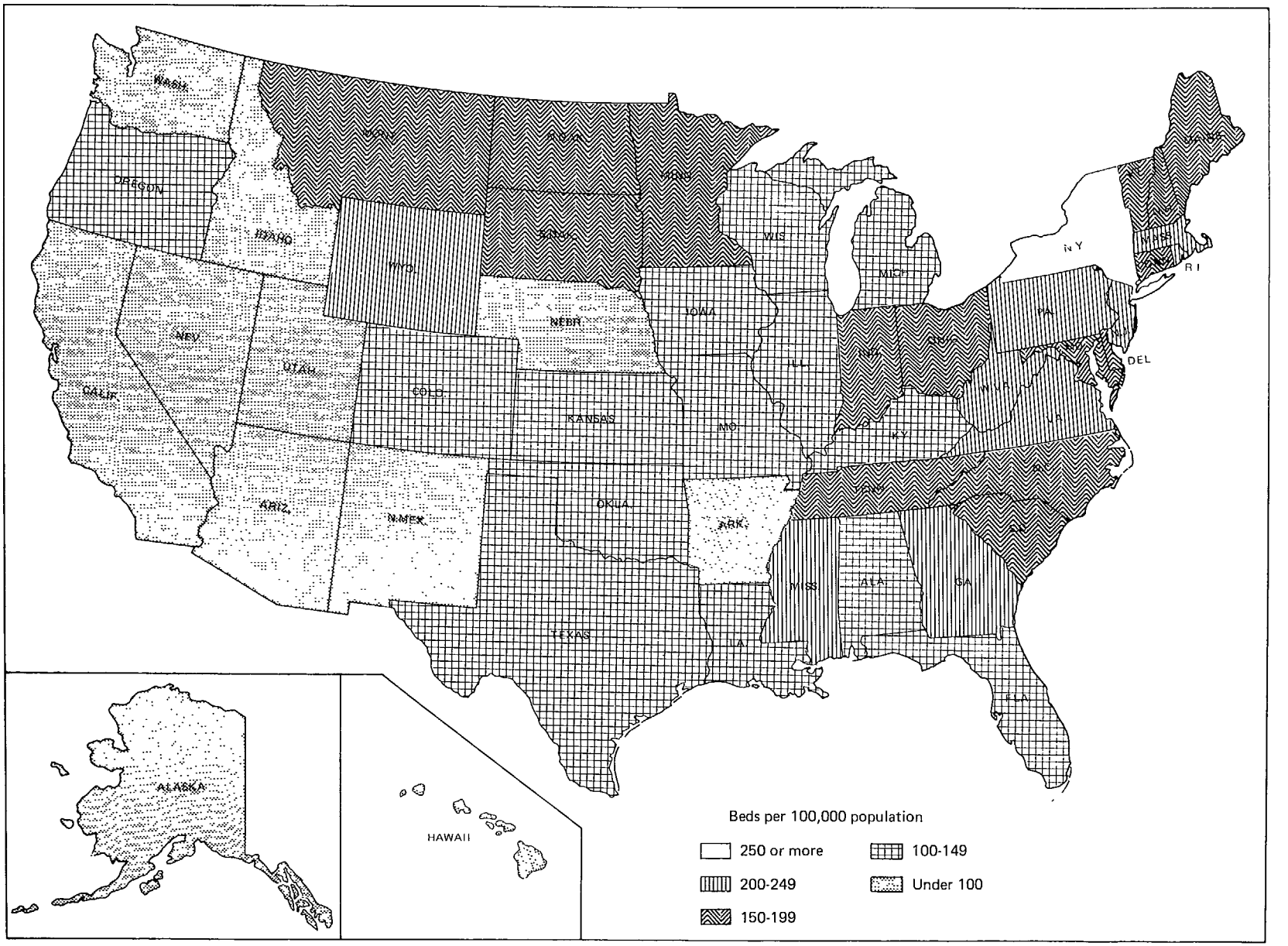


Figure 4. Total psychiatric beds per 100,000 population, by State: United States, January 1976

sector, particularly in the State hospital system, and the well-to-do in the private sector. The growth of general hospital psychiatry and community mental health centers as well as increased insurance coverage (at least for general hospital inpatient psychiatric care) have lessened the differences in service system choices open to persons of differing income levels. Nonetheless, financial constraints still limit treatment and service setting options and shape utilization patterns unevenly. Low-income individuals, usually uninsured, have a broader choice of public facilities than they once had, but they still have limited access to the private sector. Middle-income individuals, usually insured, have a broader range of choices than low-income individuals, but they are constrained by insurance coverage provisions favoring inpatient care. Thus, the source of expected payment for mental health services (e.g., self, health insurance, Medicare-Medicaid, etc.), which depends in part on an individual's age and income level, affects his or her choice of treatment type and setting. Accordingly, treatment settings differ appreciably in the demographic characteristics of clientele and in funding sources.

For all admissions to selected[5] non-Federal mental health facilities in 1975, the distribution of expected payment source was as follows: personal payment, 31 percent; Medicare, Medicaid, or other government sources, 29 percent; Blue Cross or other commercial insurance, 21 percent; no charge, 20 percent.

Since the advent of Medicare and Medicaid, the age of the patient is a major factor affecting payment patterns. For the group 65 years of age and over, Medicare was the expected primary payment source for 55 percent of the admissions, Medicaid for 12 percent, and other government sources for 6 percent. Private health insurance accounted for only 6 percent of the total. For the group under 65 years of age, private health insurance accounted for 22 percent of the total, whereas Medicaid and other government sources accounted for only 27 percent.

Commercial insurance accounted for a higher proportion of payment sources for inpatient services than for outpatient. Such health insurance was the primary payment source for only 9 percent of the total outpatient admissions, while for inpatient care it accounted for 38 percent, reflecting the more generous coverage of inpatient mental health benefits. Even within inpatient settings, however, there are different payment patterns, reflecting patient income, insurance coverage provisions, and other factors. In private mental hospitals and in general hospital psychiatric units, 67 percent and 51 percent, respectively, of the total admissions used commercial insurance for the principal payment source. In State mental hospitals, only 11 percent of the admissions listed commercial insurance as the expected primary payment source, reflecting less generous insurance coverage for inpatient care in such settings. The interaction between socioeconomic status and the service setting is illustrated by examining public versus private general hospital psychiatric units. Since insurance plans usually cover inpatient psychiatric care in general hospital psychiatric units, these settings have a higher percentage of persons with commercial insurance than public psychiatric hospitals (i.e., State and county mental hospitals). However, this interacts with the income level of the clients being served. In public general hospital psychiatric units, which generally serve a lower socioeconomic group than private general hospitals, the proportion of admissions with commercial insurance was about half that of psychiatric units in private general hospitals (28 percent versus 60 percent).

Cultural and Racial Differences Among Service Users

A major goal of many health care planners and policymakers is to assure that all those who need mental health services have access to them. A particular focus of concern has been those cultural and ethnic subgroups that traditionally have not had ready access to many mental health services. Unfortunately, epidemiological studies in mental health are not yet sufficiently sophisticated to measure differential needs for mental health

[5] See footnote 2.

services among various ethnic subgroups in the population. Further, the variables intervening between need and utilization are many and complex. For example, there are many people with mental disorders who avoid treatment for fear of being stigmatized. It is therefore difficult to reach definitive conclusions about equity of services to these different groups by studying only the end point of this process, the use of services. However, major differences still exist among white, black, and Hispanic people in their use of mental health services and in the sites where these services are received. The search for the reasons for these differences is complicated because cultural and ethnic factors frequently interact with socioeconomic factors.

Some basic service utilization patterns of black, white, and other races can be described as well as how these patterns have changed in the recent past. As shown in table E, in 1975 the rate of admissions for white people to selected mental health services was considerably less than the rate for all other races (1,523.4 versus 2,009.8). When comparing admission rates by type of facility, appreciable differences can be seen. Admission rates for white people exceeded those for all other races in general hospital psychiatric units (245.4 versus 233.3) and in private psychiatric hospitals (64.9 versus 37.9), but the rates for all other races exceeded those for white people in State and county mental hospitals (321.9 versus 161.1), in all services of community mental health centers (568.0 versus 414.6), and in outpatient psychiatric services (848.8 versus 637.3). The same general pattern existed in 1971, but some trends between 1971 and 1975 are worth noting:

- A striking rise of 128 percent in the admission rate for white people to community mental health centers compared with a rise of 69 percent for all other races.
- The comparably impressive rise of 151 percent in the admission rate for all other races to private psychiatric hospitals compared with a rise of 40 percent for white people.
- The decline of 27 percent in the

Table E. Admission rates to mental health services and percent change, according to color and type of service: United States, 1971 and 1975

Type of service	Admissions				Percent change 1971-75	
	White		All other			
	1971	1975	1971	1975	White	All other
	Number per 100,000 population					
All services[1]	1,112.8	1,523.4	1,638.5	2,009.8	36.9	22.7
State and county mental hospitals—inpatient	177.7	161.1	352.2	321.9	−9.3	−8.6
Private psychiatric hospitals—inpatient	46.5	64.9	15.1	37.9	39.6	151.0
General hospital psychiatric inpatient units[2]	245.5	245.4	317.7	233.3	0.0	−26.6
Community mental health centers (all services)	182.1	414.6	336.7	568.0	127.7	68.7
Outpatient psychiatric services[3]	460.9	637.3	616.8	848.8	38.3	37.6

[1] Excluded are Veterans Administration services and those of residential treatment centers for emotionally disturbed children.

[2] Data shown are for discharges. Discharges approximate the number of admissions because of short lengths of stay in these hospitals.

[3] Includes freestanding outpatient psychiatric clinics and outpatient services affiliated with other mental health facilities.

SOURCES: National Institute of Mental Health: Utilization of mental health facilities, 1971. *Mental Health Statistics.* Series B-No. 5. DHEW Pub. No. (NIH) 74-657. National Institutes of Health. Washington. U.S. Government Printing Office, 1973; Division of Biometry and Epidemiology, National Institute of Mental Health: Unpublished data.

admission rate for all other races to general hospital psychiatric units compared with no change for white people.

Manpower Supply and Distribution

Concern has frequently been voiced over the adequacy of the manpower supply to meet the current and future service needs of the mentally ill. The issue becomes particularly acute considering the possibility that national health insurance, by eliminating some financial barriers, may increase the demand for services. At present it is extremely difficult to say, except at a very general level, whether there are or are likely to be enough of the right people, with the right skills, in the right places to respond appropriately to mental health service needs and demands. To do so requires information not now available regarding such issues as:

- Who needs what services where?
- What types of persons are best suited to provide various types and levels of care for particular kinds of individuals and disorders?
- How do caregivers spend their time in various organizational settings?
- How do various types of caregivers affect those they treat?
- What kinds of human resources are needed and for how long to provide adequate treatment for various disorders?
- What incentives can effectively alter manpower distribution patterns to make them more equitable?
- How are the supplies of various types of manpower and other resources changing?

The issue is particularly complex because not only must the characteristics of the specialty mental health manpower system be understood but also those of the general health manpower system.

Almost two-thirds of the mentally ill have contact with only the general health sector during a given year; thus it is critical that need and demand for manpower to treat mental disorders be analyzed in this larger context. However, if examination is confined to the core disciplines providing mental health services (i.e., psychiatry, psychology, social work, and mental health nursing), some idea of the general supply of personnel in these fields can be obtained as well as how these individuals are distributed nationally in various service settings. Such figures, although crude, do suggest that however adequate or inadequate the current supply may be nationally, there is considerable geographical maldistribution that needs to be corrected.

There has been a substantial growth in the core disciplines during the past 30 years, as noted by Kole (1978):

> "Membership of the American Psychiatric Association increased from about 12,000 in 1963 to about 23,000 in 1976; of these, 17,000 are estimated to be providing patient services in various settings, a ratio of 1:13,000 to the general population in 1976. Membership of the American Psychological Association increased from 21,000 in 1963 to 44,500 in 1977. Of these, approximately 23,000 are considered by the Association to be health care providers; approximately 81 percent of these providers have doctorate degrees and 17 percent have master's degrees, with many of the latter working toward the doctorate. The supply of social workers increased from an estimated 105,000 in 1960 to 195,000 in 1974 with perhaps 70,000 having an MSW degree or higher; about 26,000 full-time equivalent social workers were employed in mental health facilities in 1976, with 73 percent of these at the MSW level or above. In 1976, about 39,000 full-time equivalent nurses worked within organized mental health facilities; these include the entire range of training from associate degree nurses to those holding doctorate degrees. The number of mental health nurses with master's degrees or higher has increased from less than 20 in 1947 to approximately 11,000 in 1976."

As of January 1976, there were 478,845 filled staff positions (excluding private practitioners) in specialty mental health facilities in the United States. Of that total, 37 percent were staff not engaged in patient care. Of the professional staff, 26 percent were registered nurses, 13 percent were psychiatrists, 3 percent were other physicians, 12 percent were psychologists, 18 percent were social workers, 6 percent were physical health professionals, and 22 percent were other mental health professionals. Of the other staff engaged in patient care, 11 percent were licensed practical or vocational nurses, and 89 percent were mental health workers. Full-time staff worked an average of 39.6 hours per week, part-time worked 14.8 hours, and trainee staff worked 22.4 hours (NIMH, 1977).

More than half of the total full-time equivalent staff of specialty mental health facilities worked in State and county mental hospitals. These hospitals employed relatively large numbers of staff for work other than patient care and mental health workers with less than a bachelor's degree. Professional staff engaged in patient care in State and county mental hospitals were not as predominant, accounting for one-third of the full-time equivalent staff positions (NIMH, 1977).

A study of the distribution of mental health manpower in mental health facilities has reported several aspects of uneven manpower distribution (Tweed, Konan, and Longest, 1977). First, urban areas rather than rural areas tended to attract concentrations of manpower and services. Such urban-rural-manpower differences were particularly great regarding psychiatrists, social workers, and registered nurses. Although there were urban-rural disparities in the supply of psychologists, the disparities were not as great. Paraprofessionals tended to be more evenly distributed. The urban-rural-manpower disparity holds even when poverty areas are compared. For psychiatrists, psychologists, social workers, and registered nurses, the highest mean number of manpower hours per 100,000 catchment area population in a poverty area was found in urban poverty areas, while the lowest manpower levels were in rural poverty areas.

From a regional perspective, the Northeast was relatively well supplied with mental health manpower, while the South, particularly the West South Central and East South Central Regions, was poorly supplied. Certain States were outstanding either for their notably high rates of mental health manpower (e.g., New York, Massachusetts, Vermont, and the District of Columbia) or for notably low rates (e.g., Alabama, Alaska, and Mississippi).

Although this study was limited to manpower in mental health facilities, similar distribution patterns may exist for mental health personnel in private practice and in other care settings such as schools, industrial clinics, and the like (Morrow, 1977).

SUMMARY

A review of the key points of this chapter provides an overview of the current mental health service system. Some trends and issues of particular importance for future planning are as follows:

- About 15 percent of Americans are estimated to have mental disorders within any 1-year period.
- Most receive care from a variety of resources, but primarily from the general health not the specialty mental health service system.
- As many as 22 percent of those with mental disorders may receive no diagnostic assessment or treatment in a year from either service system.
- The specialty mental health service system, once largely geared toward long-term inpatient care in public facilities, is becoming increasingly oriented toward short-term and outpatient care in the private sector.
- The length of stay in specialty mental health inpatient facilities has decreased appreciably, as has the number of inpatient beds.
- The locus of inpatient care of the mentally ill is shifting from State and county mental hospitals to several

other settings, particularly nursing homes and psychiatric inpatient units of general hospitals.

- The diagnoses that bring people to mental health services are primarily schizophrenia and depression, although the major diagnoses vary considerably by setting, with a predominance of less severe disorders in outpatient settings.
- The growth of community mental health centers has provided new service resources and has had a profound effect on outpatient care—particularly day care—but has not yet achieved its full potential in creating more equitable geographic distribution of services and personnel.
- The distribution of patients among various types of mental health facilities is related to many factors, including their diagnoses, income levels, ages, cultural and racial backgrounds, and the presence or absence of health insurance. There are still many barriers that restrict freedom of choice for some individuals (particularly those with low incomes and no insurance), and these may result in a less than optimal match of patients and services.
- Various racial and cultural minority groups are unevenly represented within various mental health service settings. Although the admission rates of minority group members are increasing in several settings where they previously were quite low, such as in the psychiatric units of general hospitals and in private psychiatric hospitals, large differences in admission rates still exist.
- Mental health personnel, like mental health facilities, are unevenly distributed geographically, with rural areas notably low in mental health services resources.

Obviously there is still much work to be done to assure that all Americans have access to appropriate, convenient, effective mental health care when it is needed. Considerable work is also required to reduce the need for mental health services through prevention. Such preventive efforts must be firmly grounded in laboratory-based and epidemiologic studies of the conditions that contribute to mental disorder, for example, risk factors. The more that is understood about the origins of mental illness and how to control it, the less reliance there will be on an extensive—and expensive—treatment system. Thus future mental health planning must address not only how to make mental health care more accessible and equitable for those with mental disorders, but also how to keep people mentally well.

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CHAPTER V

Long-Term Care: An Overview[a]

Long-term care is an inevitable phenomenon in the future of millions of Americans. Some people will require care for chronic disabilities, injuries sustained in accidents, or the gradual or sudden decline in functional ability that may be associated with old age and approach of death. Others will bear children afflicted by mental retardation, congenital disabling diseases, or other defects requiring care over an extended period, perhaps lifelong. As the number and proportion of aged and very aged increases in our society, millions more will be affected, including the friends and relatives of aged individuals who become long-term care recipients.

Despite its importance to a large segment of the population, long-term care is not well understood. Indeed, the discussion of definitions in the following section of this chapter shows that not even those who consider themselves experts in long-term care entirely agree upon what the term encompasses.

SCOPE OF LONG-TERM CARE

This chapter provides a review of some of the pertinent issues and topics that have been highlighted in the research and writing of those working in the field. As such, the reader may detect a focus upon problems and issues related to the aged and institutionalized segments of the long-term care population even though many long-term care recipients are neither aged nor institutionalized. Other segments of the population, though no less important, have been less well researched in the comparatively short period of empirical work in this field.

The emphasis on institutionalized care also reflects the fact that it has been only in recent times that the concept of a long-term care "continuum" has emerged. This is the view—some would say "philosophy"—that care needs are varied and changing and not limited to those that can be appropriately served through such traditional settings as nursing homes, outpatient departments of hospitals, and physicians' offices. The philosophy maintains that long-term care patients should be provided with options offering different care packages in various settings.

Put another way, long-term care means a wide array of services offered in a variety of settings to individuals with differing needs and preferences. The continuum stretches, in one sense, from the nursing home to the patient's own home with a large number of alternatives in between, and in another sense begins with services which will prevent deterioration or dependency and ends only after ensuring that death and associated suffering have been made as bearable as possible. This concept of the continuum will be returned to later in this chapter.

This chapter begins with a discussion of the different meanings of long-term care, including perspectives on the size and scope

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of the long-term care population and the scope of services included. Next, issues related to the important institutional dimension of long-term care are considered through a historical discussion of the evolution of nursing home care. Current Medicare and Medicaid definitions of nursing homes are presented, as well as data on costs and expenditures for nursing homes. Next, the difficult problems of assessing and assuring quality of care in long-term care settings are considered, especially with respect to institutional settings.

The chapter then turns to consideration of the concept of a long-term care continuum and summarizes several innovative approaches to long-term care delivery that might be included in an expanded long-term care continuum. These include adult care, home health and homemaker services, hospice care, and other care arrangements such as congregate living facilities. The chapter concludes with a summary statement of the research and policy issues facing those concerned about long-term care.

DEFINING LONG-TERM CARE

The problem of defining long-term care has been approached from a variety of perspectives. The Commission on Chronic Illness (1957) defined long-term care as any care extending beyond 90 days. But the American Hospital Association (1977), focusing strictly on the hospitalized portion of long-term care, defines as long-term any hospitalization exceeding 30 days.

Other approaches have focused on the nature of the long-term care patient. Often included in the population of active or potential long-term care patients are all persons of any age suffering recurrent or persistent symptoms, illnesses, disabilities, or impairments. But many definitions stress that mere presence of such conditions may not be as valid an indicator of the need for long-term care as the effect they have on ability to function. Functioning can be defined to include specific activities such as those fundamental to daily living (e.g., eating, using the bathroom, dressing, etc.) or at broader levels such as ability to function in one's role (e.g., homemaker, worker).

Such variation in approaches to defining long-term care reflects the fact that definitions change as the values of those doing the defining change. As one long-term care researcher notes, societal values enter the definition of long-term care in deciding who needs it and what it is (Sherwood, 1975). Providers of care with services to sell may have very different values from cost-conscious budget committees. These values will influence the population included and may broaden the services subsumed in the definition. Providers of health services may be inclined to exclude social services. Those who prefer to limit their services to perhaps higher paying and "curable" younger patients may broaden the definition of long-term care to reduce their own responsibilities for chronic populations and the intractable health problems common to them.

These differences have produced a variety of definitions. All of them are useful in some situations, but none is totally acceptable for all purposes, and none has been universally adopted. For example, one useful definition has been developed by Dr. Sylvia Sherwood (1975). It is very comprehensive in terms of care goals and is rooted in the notion that need for assistance in functioning is a good indicator of care need, a notion regarded by many as valid. Dr. Sherwood's definition states that:

> "Someone is a long–term care person who has reached, either suddenly or gradually, a state of collapse or deterioration in human behavioral functioning which requires—for survival, slowing down the rate of deterioration, maintenance, or rehabilitation—the services of at least one other human being."

Yet this definition contrasts substantially with one developed by staff members of the National Center for Health Services Research, National Center for Health Statistics and other agencies within the Department of Health, Education, and Welfare. According to that definition:

"Long-term care consists of those services designed to provide diagnostic, preventative, therapeutic, rehabilitative, supportive, and maintenance services for individuals of all age groups who have chronic physical and/or mental impairments, in a variety of institutional and noninstitutional health care settings, including the home, with the goal of promoting optimum levels of physical, social, and psychological functioning."

This definition also has among its virtues comprehensiveness and a focus upon services needed to maintain or improve functioning. Despite both definitions' virtues, neither is adopted here. The first seems to exclude those who were born with their conditions, while the second expressly encompasses patients suffering psychological disorders. This second group (other than those suffering the lifelong and irreversible problems of mental retardation) is typically considered to constitute a separate psychiatric or mental illness population and as such is discussed in a separate chapter of this report.

If this variation seems to suggest differing interests among researchers or "turf" battles among rival professional groups and competing program bureaucracies, it should also be taken as an indication that the field is emerging and changing and a healthy debate continues over its nature and scope. Or, as Dr. Sherwood noted in offering her definition: "The boundaries . . . remain fuzzy" and further research is needed.

LONG-TERM CARE POPULATION

The foregoing debate does suggest that discussions of long-term care should begin with a statement of what portion of the long-term care population is being considered. For purposes of this chapter, the long-term care population includes primarily the following groups:

- Some proportion of the large number of Americans who suffer some limitations of activities because of a chronic condition. The National Center for Health Statistics has estimated that, in 1976, approximately 14 percent of all Americans not in institutions were so afflicted. Some proportion of these individuals either received, needed, or may in the future receive or at least need long-term care services.
- Another large group of Americans who were in institutions of several types which provided some form of long-term care. Although many of these individuals were aged, some were not (table A), especially the large proportion of younger patients suffering mental retardation (table B).

NURSING HOMES AND THE EVOLUTION OF LONG-TERM CARE

In the past, shorter life spans made nursing homes and many of today's other specialized places for the care of the long-term ill unnecessary, or at least a need which was largely ignored. No longer; Brody (1977) notes that the proportion of elderly people was not very large before this century, and that it is only in the past 50 years that we have experienced a rapid increase. In 1900, 3 million people or about 4 percent of the total population were 65 years of age or over. By 1976, 21 million people or 11 percent of all Americans were in this group, and their numbers are growing: The number of Americans 65 years of age or over increased much more rapidly than the population as a whole during the last national census period (21 percent versus 13 percent). The group 75 years of age and over within this population is increasing even faster (U.S. Bureau of the Census, 1974 and 1978).

As Brody says, "Sheer demography, then, was one of the major pressures producing growth of institutional facilities." In 1939, about 1,200 homes provided various levels of care and included about 25,000 beds (U.S. Bureau of the Census, 1942). By 1977, there were approximately 18,300 homes, and they housed 1,383,600 beds (NCHS, 1978a).

Table A. Age of patients in 3 types of long-term care facilities: United States, 1976

Age of patient	Total		Nursing homes[1]		Physically handicapped[2]		Mentally handicapped[3]	
	Number of patients	Percent distribution	Number of patients	Percent distribution	Number of patients	Percent distribution	Number of patients	Percent distribution
Total	1,409,660	100.0	1,182,670	100.0	37,780	100.0	189,210	100.0
0-2 years	6,460	0.5	5,980	0.5	–	–	480	0.3
3-5 years	5,290	0.4	2,310	0.2	520	1.4	2,460	1.3
6-12 years	28,650	2.0	700	0.1	8,770	23.2	19,180	10.1
13-17 years	42,960	3.0	–	–	9,240	24.5	33,720	17.8
18-20 years	23,760	1.7	2,010	0.2	3,530	9.3	18,220	9.6
21-49 years	129,280	9.2	36,300	3.1	5,640	14.9	87,340	46.2
50-64 years	141,350	10.0	115,920	9.8	6,380	16.9	19,050	10.1
65-79 years	374,100	26.5	368,370	31.1	1,360	3.6	4,370	2.3
80 years or over	623,210	44.2	620,970	52.5	920	2.4	1,320	0.7
Unknown	34,600	2.5	30,100	2.5	1,420	3.8	3,080	1.6

[1] Includes facilities listed in the National Center for Health Statistics 1973 Master Facility Inventory as nursing care units, convalescent or rest homes, and homes for the aged. Excludes facilities listed in the hospital component of the inventory.

[2] Includes facilities listed in the National Center for Health Statistics 1973 Master Facility Inventory as facilities for the blind, the deaf, and the physically handicapped. Excludes facilities listed in the hospital component of the inventory.

[3] Includes facilities listed in the National Center for Health Statistics 1973 Master Facility Inventory as facilities for the mentally retarded and other neurologically handicapped. Excludes facilities listed as resident treatment centers for alcoholics, resident treatment centers for drug abusers, and facilities for the emotionally disturbed, as well as facilities listed in the hospital component of the inventory (e.g., large psychiatric hospitals).

NOTE: The median and mean ages of patients were 80 years and 77 years, respectively, in nursing homes; 17.7 years and 28.4 years, respectively, in facilities for the physically handicapped; and 25.2 and 30.4 years, respectively, in facilities for the mentally handicapped.

SOURCE: Derived from prepublication tables of the U.S. Bureau of the Census: *Current Population Reports.* Series P-23, No. 69, Washington. U.S. Government Printing Office, June 1978.

But other factors were also important in producing growth, including: passage of the Social Security Act in 1935, passage of the Hill-Burton Act in 1946, the growth of private hospital insurance in the 1950's, and the passage of Medicare and Medicaid in the mid-1960's.

Reichert (1975) describes the effect of the 1935 legislation. An important intent of that depression era legislation was to take older people out of the job market and provide them with cash. To insure that the poorhouses would not become the federally-supported repositories of the elderly, the law prohibited payments to residents of public institutions. This meant that those who did become institutionalized for chronic physical or mental conditions lost Federal support. Many publicly-supported facilities quickly became the exclusive refuge of the abject poor.

Disruptions of the extended family, housing shortages, and new mobility among wage earners worked to increase demand for institutions that could care for the elderly and other infirm individuals. Those not eligible for tuberculosis hospitals or chronic disease hospitals found that their institutional choices were often limited to the public facilities, some of which were now inhabited mostly by those at the bottom of the socioeconomic ladder. To avoid such places, those who could afford it purchased accommodations in the private homes of individuals willing to provide board and limited care as a source of income. Some of these private homes took the next step to become larger scale operations. Typically, they were unregulated, and though some—especially many church-supported homes—were clean, comfortable, and well run, others were of poor quality and too frequently were fire traps. County welfare departments began to move into the field; their provision of financial support to the homes gave them leverage to set standards.

Table B. Conditions being treated among patients in 3 types of long-term care facilities:[1] United States, 1976

Condition	Total		Nursing homes[1]		Physically handicapped[1]		Mentally handicapped[1]	
	Number of patients	Percent distribution	Number of patients	Percent distribution	Number of patients	Percent distribution	Number of patients	Percent distribution
Total	1,409,660	100.0	1,182,670	100.0	37,780	100.0	189,210	100.0
Cardiovascular	470,070	33.3	467,450	39.5	1,510	4.0	1,110	0.6
Respiratory	23,080	1.6	22,850	1.9	230	0.6	0	0.6
Nervous	125,590	8.9	111,900	9.5	1,780	4.7	11,910	6.3
Mental illness	94,270	6.7	82,180	6.9	5,350	14.2	16,740	3.6
Mental retardation	190,100	13.5	41,530	3.5	5,360	14.2	143,210	75.7
Musculoskeletal	127,610	9.1	125,390	10.6	1,490	4.0	730	0.4
Digestive	15,870	1.1	15,790	1.3	50	0.1	30	0.0
Urogenital	17,450	1.2	17,450	1.5	0	0.1	0	0.0
Neoplasms	13,080	0.9	13,020	1.1	20	0.0	40	0.0
Endocrine	33,590	2.4	32,240	2.7	490	1.3	860	0.5
Old age	103,820	7.4	103,030	8.7	760	2.0	30	0.0
Other specified	31,010	2.2	17,340	1.5	12,760	33.8	910	0.5
Injuries and accidents	7,400	0.5	4,700	0.4	330	0.9	2,370	1.3
General nursing	2,230	0.2	520	0.0	0	0.9	1,710	0.9
None	120,760	8.6	96,980	8.2	7,450	19.7	16,330	8.6
Don't know	5,690	0.4	5,520	0.5	170	0.4	0	8.6
Unknown	28,000	2.0	24,750	2.1	20	0.1	3,230	1.7

[1] Facilities are defined in table A.

SOURCE: Derived from prepublication tables of the U.S. Bureau of the Census: *Current Population Reports.* Series P-23, No. 69, Washington. U.S. Government Printing Office, June 1978.

In 1946, the Hill-Burton Act was passed guaranteeing that those willing to build and operate nursing homes could be assured of financial aid from the Federal Government.

Still there was no solution to the problem of where the growing population of elderly disabled could find care. Many such patients found their way to acute care hospitals and, once there, frequently stayed longer than their acute episodes required because they had nowhere else to go. The growth of private health insurance in the 1950's placed hospital beds in great demand by an insured, younger, acute care population. By 1964, some 76 percent of the American population was covered by private health insurance, but less than half of those 65 years of age and over were covered (Moroney and Kurtz, 1975). Typically, nursing home stays were excluded from coverage even among those who had insurance. These and other pressures led to passage of the 1965 Medicare and Medicaid amendments to the Social Security Act, which, among other things, provided for coverage of medical payments for the elderly (Medicare) and the indigent (Medicaid) and made available to them less costly and lower-level care facilities: the extended care facility of Medicare and the skilled nursing home of Medicaid.

Under the original Medicare regulations, an extended care facility (ECF) was defined as a facility that had at least one registered nurse employed full time and offered 24-hour skilled nursing care. If it met these and certain other requirements, an ECF could qualify for participation in Medicare.

Medicaid payments covered care in skilled nursing homes that were required to have skilled nursing care or other skilled rehabilitation services available.

The 1972 amendments to the Social Security Act defined skilled care in the same terms for both Medicare and Medicaid. The skilled nursing facility (SNF) replaced the ECF in the lexicon of Medicare and the skilled nursing home of Medicaid. An SNF is currently defined by both as:

"An institution primarily engaged in providing skilled-nursing care and related services for patients who require post-hospital medical or nursing care or rehabilitation services . . . Covered SNF services include nursing care; room and board; physical, occupational, and speech therapy; drugs and biologicals; medical services of an intern or resident-in-training of a hospital having a transfer agreement with the skilled nursing facility; and other necessary health care services generally provided by such facilities" (Office of Research and Statistics, 1975).

The 1972 amendments also provided for inclusion of coverage for intermediate care facilities (ICF's) under Medicaid. An ICF is defined as:

". . . an institution or distinct part thereof which (1) is licensed under State law to provide, on a regular basis, health-related care and services to individuals who do not require the degree of care and treatment which a hospital or skilled nursing home is designed to provide, but who because of their mental or physical condition require care and services beyond the level of room and board which can be made available to them only through institutional facilities, (2) meets such standards prescribed by the Secretary as he finds appropriate for the proper provision of such care, and (3) meets such standards of safety and sanitation as are applicable to nursing homes under State law" (U.S. Code).

However, the two financing programs do continue to differ in the important dimension of length of coverage, as explained below.

Costs of Nursing Home Care

From 1966 to 1975, nursing home expenditures rose more than 500 percent (Gornick, 1976). When private and public expenditures are considered, 1977 outlays of $12.6 billion were almost 10 times the level of 1965 expenditures (Part B, table 151). A recent study of catastrophic health care costs concluded that the major proportion of costs that should reasonably be included in such a concept were nursing home costs:

"The institutionalized population dominated the national profile. Individuals in nursing homes, psychiatric hospitals, and chronic and tuberculosis hospitals accounted for almost half the national catastrophic expense. The nursing home population dominated the institutionalized population. Nursing homes accounted for 67 percent of the catastrophic institutionalized population and 50 percent of costs; 41 out of every 100 nursing home residents incurred expenses exceeding $5,000" (ABT Associates, Inc., 1977).

Provisional data from the 1977 National Nursing Home Survey conducted by the National Center for Health Statistics show how this phenomenon of catastrophic nursing home costs occurs. The average cost per resident per day was $24.04. Thus, for a full year, costs would exceed $8,774.

Sources of Payment for Nursing Home Care

Medicare provides up to 100 days of skilled care per benefit period, and these must be preceded by at least 3 days of hospitalization. Medicare nursing home expenditures were $362 million in fiscal year 1977. The median length of stay for Medicare patients was only 24 days, shorter than the median stay for patients whose source of payment was other than Medicare. Because of the relatively short coverage period, however, these expenditures represented only a small proportion of the billions of dollars spent on nursing homes—about 9 percent of 1977 Federal spending for nursing homes and only about 2 percent of all Medicare expenditures (Part B, table 154).

The really important source of nursing home support has been and continues to be Medicaid, the Federal-State cost sharing program which pays for health care of the

indigent. Total Medicaid payments for such care were $6.4 billion in fiscal year 1977. Such payments are made for unlimited nursing home residence at any of several levels of skill and service intensity. Care at the SNF level, in keeping with its nursing requirements, is limited to patients who require the services of a registered nurse on a daily basis. Such care, by law, must be available to all indigents over 21 years of age in each participating State. Lower levels of care, such as the intermediate care facility (ICF), are provided at State option to patients who do not require the services of a registered nurse on a daily basis.

Although optional, every participating State pays for ICF care. In 19 States, nursing homes account for the bulk of Medicaid expenditures. Other less significant sources of funding for nursing homes and other long-term arrangements include: the Veterans Administration which provides room, board, and general supervision to veterans in nursing homes, community or State institutions, and other facilities; and Supplemental Security Income (SSI) for the aged, blind, and disabled, initiated in 1972 to make up the difference for those who fall below a set standard minimum income. The 1976 changes in the Social Security Act allowed payments to persons in publicly operated community residences serving no more than 16 persons. SSI payments have since become a major source of financing for domiciliary care, a custodial level of care below ICF care.

Private sources cover over half of all long-term care costs. An estimated 88 percent of private payments are out-of-pocket rather than insurance-covered (Congressional Budget Office, 1977).

In 1977, the National Center for Health Statistics estimated that there were approximately 18,300 nursing homes (including nursing care homes, personal care homes, and domiciliaries) in this country with a total of 1,383,600 beds, serving about 1,287,400 residents annually (NCHS, 1978b). About 71 percent of these residents were female, 85 percent were 65 years of age and older, 58 percent were widowed, and 92 percent were white. The mean age was 78, the mean length of stay was 2.7 years, and the median was 1.6 years. More than half of the residents (54 percent) were transferred to the nursing home from some type of institution or boarding house, while 41 percent moved from a private residence, usually from a relative's home.

Seventy-five percent of all nursing homes including 88 percent of all beds in nursing homes were certified by Medicare, by Medicaid, or by both; 20 percent of the homes and beds were certified as either a Medicare or Medicaid skilled nursing facility (SNF). The intermediate care facilities (ICF's) certified by Medicaid only were 34 percent of all homes housing 33 percent of the beds while facilities certified as SNF and ICF were 21 percent of all homes with 35 percent of the beds. Homes not certified for Medicare or Medicaid made up 25 percent of the total and housed only 12 percent of the beds. Seventy-four percent of the nursing homes were proprietary; 26 percent were nonprofit (NCHS, 1978a).

The average facility in 1977 had 45.1 full-time or equivalent (FTE) employees providing direct health-related services per 100 beds; 40.2 of the FTE's were part of the nursing staff; of these, 29.8 FTE's were nurses' aides (NCHS, 1978a).

QUALITY DIMENSION IN LONG-TERM CARE

Such staffing figures are important indicators of adequacy of care in institutions in the opinions of many observers. Linn's (1974) attempt to predict the quality of patient care in nursing homes showed that staff-patient ratios, patient satisfaction, and home size proved to be the primary determinants. Similarly, in a survey of opinion concerning characteristics of nursing homes perceived to be effective and efficient by other administrators and persons in State government, Winn and McCaffree (1976) found that these homes had significantly more staff, more beds, higher occupancy rates, and were certified for more levels of care than typical homes across the Nation described in the National Nursing Home Survey. Kart and Manard (1976) concluded that ownership,

size of facility, socioeconomic status of facility, social integration, and "professionalism" of staff were determinants of quality of care.

Such research and opinion on quality of nursing home care has not led to broad policy overhauls in the administration of long-term care facilities, however.

Gottesman and Bourestom (1974) observed activities in 40 "elite" skilled nursing homes in Detroit and found that only 2 percent of resident contact involved skilled nursing. Contact with staff members filled only 10 percent of the residents' time. In all, 56 percent of the residents' time was spent doing very little, if anything. Although the authors observed that it was promising to find that those who got the most care from aides were those who were confined to bed and presumably needed the most care, they commented that it was not encouraging to realize that "so much of resident time is spent doing so little."

Their findings appear to suggest that factors other than staffing may be important. Topping Gottesman and Bourestom's list of other factors is "accountability." By this they mean someone in the community who cares about the patient in the nursing home and is able to act on his or her behalf. Supporting their conclusion was their finding that five factors correlated with the overall quality of care received by individual residents (quality was defined as quantity of interaction with staff or residents). These factors were:

- The resident had had a recent visitor.
- The resident had personal possessions.
- Most of the residents in the home were white.
- The home was either nonprofit or proprietary with two-thirds or more private paying residents.
- Residents had jobs they could do around the nursing home.

The authors believed that implicit in the meaning of being white, paying privately, and having private possessions was an increased likelihood of having someone in the community who cared. Other researchers (Glaser and Strauss, 1968) have found that, in acute care hospitals, those patients who have relatives receive more care.

Similarly, Barney (1974) described a role for community presence in nursing homes. She found that anyone going in and out of a nursing home exerts a subtle influence on quality of care. She called for more volunteers, more suppliers, more inspectors, more relatives and friends visiting, and more community sponsorship of nursing homes. Three models she discussed are administrators inviting participation by relatives in nursing home activities, involvement of community groups, and the Federal nursing home ombudsman program (Weissert, 1973). Barney also pointed out the failure of ordinary regulatory mechanisms in dealing with a service, such as nursing home care, which has a disabled, powerless people for a clientele. In seeking maximum efficiency and productivity, which are the usual organizational goals, some nursing homes may take advantage of clients who cannot defend their rights. She believes a community presence is the key to improved quality of life (Barney, 1974).

Others (Bishop, Bolton, and Jones, 1976) suggest that patients might be more appropriately placed for care, and that this could contribute to quality care. Persons who hold such a view usually believe that the nursing home is relied on too heavily as the principal source of publicly supported long-term care.

> "Perhaps the single largest factor behind the lack of adequate or appropriate long-term care for a large number of the chronically disabled is the general lack of formal alternatives to institutional care. Once it is determined that a person is incapable of living at home without some additional support or health care, the question of whether he or she will remain in the community depends upon existence of social (usually family) support, the adequacy of financial resources, and the availability of non-institutional social services. Unfortunately, many of the elderly are poor and either have no spouse or relative at all or no relative living near enough to assist them in basic

services. In other cases, the families of the elderly may be unwilling or unable to provide assistance. If there is no social support provided by the family or no formally provided care in the home, the alternatives are a nursing home, in which long-term care services are heavily subsidized by the government, or no care." (Chiswick, 1975)

Of course patients can be inappropriately placed even though they are in the right setting. Fourteen separate studies in recent years found that as much as 76 percent of the institutionalized population was perhaps being served at an inappropriate level of care. These studies, admittedly based on small samples and employing varying methods and definitions, were cited and summarized by the Congressional Budget Office (1977), and "conservative estimates" of 10 to 20 percent of SNF patients and 20 to 40 percent of ICF patients were inappropriately placed. Many of those allegedly receiving inappropriate levels of care were considered to be at care levels higher than needed, including some proportion who should have been released from institutional settings. Zimmer (1975) found that 32.8 percent of self-paid patients and 13 percent of Medicaid supported patients in four health-related facilities (essentially ICF's) in the Rochester area of New York suffered no physical or mental disabilities and had no care requirements, although the data cannot be generalized when using such a small sample size.

Indeed, problems of reliability and generalizability plague much of the research into quality of care in nursing homes. Although there has been a large quantity of such research, much of it has continued to be what might be called the "pilot study" variety: small scale, employing subjective definitions and measures, and usually not using rigorous methodologies, such as the experimentation or long-term comparative approach that are necessary if confidence is to be placed in findings. The studies reported here point in interesting directions, but future research must replicate their findings in larger settings and with more rigorous designs before policy decisions can be based firmly upon research findings.

EXPANDING THE LONG-TERM CARE CONTINUUM

One approach to improving the quality and appropriateness of long-term care, as well as filling many of the gaps, is to expand the long-term care continuum. Services could be designed to take advantage of community, family, and visitor involvement in care and could mitigate the problems of inappropriate placement in nursing homes by providing a broader array of placement choices. There will still be substantial demand for long-term care inpatient facilities since most nursing homes now have a waiting list, and for many very dependent patients, nursing homes are the appropriate setting. But there is a widely agreed upon need to expand the continuum of care to include ambulatory services that can complement, and perhaps in some cases, substitute for institutional care.

The underlying assumption in the movement toward alternatives in long-term care is that most long-term care patients want to be self-sufficient and independent. Irrespective of their infirmities, most people prefer and attempt to be active and self-sufficient, even though they suffer disabilities and frailties of old age (Shanas, 1962).

It is also assumed, and supported by substantial evidence, that the family of the potential long-term care recipient would prefer to continue providing long-term care services if family members were to receive some assistance which would make their continued efforts possible. A Massachusetts study found that, among 55 elderly persons judged to need help to avoid institutionalization, 85 percent were obtaining it from families, but only 28 of 47 were helped enough to enable them to survive (Sherwood, 1975).

Maddox (1975) made the point that families do not reject old people and forget them in institutions for the aged or nursing homes. Rather, families tend to turn to these living arrangements for their aged members only when all other resources for care are exhausted. Shanas (1962) similarly found that when older people were asked to whom other than their spouses they would turn in a health crisis, 9 out of 10 would turn to a

child; 7 out of 10 who had no children would depend upon a relative. But Litman (1971) reported that among three-generational Minnesota families, regardless of generation, one-half of the families found it difficult to care for a sick member at home for any length of time. One-third said they would be unable to provide care under any circumstances.

The effects on the family of keeping elderly persons at home without adequate resources have not been effectively studied, nor has the quality of care received by old people living in a family care situation been assessed. Yet care of the elderly and disabled by families is widespread. Shanas and others (1968) in studies of the United States, Great Britain, Denmark, and Israel found that from 2 to 3 times as many persons are bedfast and house-bound at home as live in institutions of all kinds. The Congressional Budget Office (1977) estimates that perhaps 3 million to 6.7 million persons received basic long-term care services from their families; in addition another 800,000 persons, according to their estimates, may receive no form of long-term care at all. The last figure may even be as high as 1.4 million (Congressional Budget Office, 1977).

A good indication that burden upon the family is an important problem leading to institutionalization is that among applicants to a long-term care facility studied by Kraus and others (1976), excessive burden on the family was given by the applicant or their families as the primary reason for seeking admission for 30 percent of those studied. Another study based on a larger sample size produced a lower estimate of the percent admitted because of excessive burden on the family (U.S. Bureau of the Census, 1978). The same study concluded that a rather long list of basic and simple services needed by applicants might have been effective in helping them avoid institutionalization. Among the services the authors believed might have allowed independent living were professional consultants, professional nursing in the home, homemaking, meals on wheels, sitting or surveillance, visiting for social purposes, more suitable housing, part-time employment or any useful activities, a brief check daily to see if the patient was all right, nonprofessional assistance with activities of daily living, provision of laundry and heavy cleaning service, and transportation.

Community-based care arrangements that provide these kinds of supportive services to infirm individuals and their families are an essential addition to the long-term care continuum. They may also offer cheaper ways to provide care than institutionalization. The following section briefly summarizes some settings that are now being experimented with or used in a few places.

Adult Day Care

Operating during daytime hours, adult day care centers provide health, social, and nutritional services to infirm individuals who are sufficiently ambulatory to be transported between their homes and the center each day. Transportation may be provided by relatives, staff members' cars, local subsidized buses, or by specially equipped vehicles able to accommodate wheelchairs.

The concept of adult day care, though not widely used in this country, has been used extensively in Europe, especially in England where it has functioned as an alternative to institutional residency for over two decades and is part of the national health service (Farndale, 1961; Brocklehurst, 1973). American interest has been slower to take hold, but today there are close to 200 day care centers (Weissert, 1977a).

One study of 10 adult day care programs led to identification of two discrete models of adult day care (Weissert, 1976 and 1977b). Model I or "Day Hospital" programs are typically affiliated with health care institutions and draw their participants from them. These programs have a strong health care orientation and seek physical rehabilitation as a treatment goal. Participants in this group's programs typically have suffered a stroke or a serious fall resulting in fractures. They are dependent upon staff members, equipment, or both for help in performing one or more activities of daily living. They previously have been institutionalized, often in an affiliated inpatient long-term care facility for a period

of time but have become sufficiently recovered to be released from inpatient status provided that followup rehabilitative treatments such as physical, occupational, and speech and hearing therapy are available on an ambulatory basis. The day care program provides such services to these infirm participants in addition to a noon meal, an activity program, social work services, social interaction with staff and other participants, and depending upon the program, periodic medical evaluation.

Model II or "Multipurpose" program participants, in contrast, show few or no dependencies and few diagnosed medical problems. They are served in programs that usually do not provide rehabilitative care, focusing instead on these less infirm participants' needs for social interaction and activities. Most participants come from the community rather than from hospitals, reflecting the fact that most Model II programs are affiliated with community service agencies rather than health care institutions. Table C contrasts characteristics of participants in the two models.

A comprehensive program such as day care could fulfill any one of a number of roles, or all of them, in the long-term care continuum. In its most health care oriented form (Model I), it provides rehabilitative care to a selected group of individuals who show potential for improvement under a rehabilitative regimen. In its less health care and more socially oriented form (Model II), some programs may offer only superficial health observation or custodial supervision and emphasize social interaction, nutrition, and transportation. Others may serve disabled populations that show little potential for rehabilitation but require health supervision, custodial supervision, nursing services, assistance in the activities of daily living, recreational therapy, social interaction, nutrition, and transportation.

A comprehensive experimental study of

Table C. Population comparisons of 2 models of adult day care, according to selected patient characteristics: United States, 1976

Patient characteristic	Model I[1]	Model II[2]
Social characteristic		
Mean age	68.1	83.7
Percent over 80 years of age	17	27
Percent who are male	30	38
Medical condition		
Percent with fractures	23	13
Percent who have suffered stroke	35	20
Percent with neurological disorders	25	28
Percent with mental disorders	20	29
Average number of medical conditions per patient	3.9	2.9
Impairment of function or activity		
Percent with some bowel problems	13	8
Percent with some bladder problems	22	15
Percent with some hearing impairment	27	19
Percent with some speech impairment	30	14
Percent who require human help walking	53	10
Percent who require human help toileting	47	7
Percent who require human help eating	5	5
Percent who behave inappropriately	13	35
Percent who are legally or medically blind	7	2

[1] Day hospital programs.
[2] Multipurpose programs.

SOURCE: Weissert, W. G.: Costs of adult day care, a comparison to nursing homes. *Inquiry* 15(1):10-19. Mar. 1978.

adult day care conducted by the National Center for Health Services Research is nearing completion. The study will assess the effect on patient outcomes of making day care available to Medicare patients and study costs of such care, comparing them to costs of care in existing settings.

In the interim, a cost analysis comparing day care participation with full-time nursing home residency was completed using data drawn from the study discussed above (Weissert, 1978). That analysis showed that day care could save between 37 and 60 percent of the cost of nursing home care depending upon frequency of attendance, when the comparison is limited only to the costs of day care versus nursing home care. When the analysis is expanded to include the costs of items such as food and rent incurred at home by the day care patient, savings drop but are still substantial (i.e., 12 to 35 percent of the cost of nursing home care).

Additional research is needed to answer the following two important questions:

- Is adult day care at least as efficacious as nursing home care and other alternatives in improving, maintaining, or slowing the rate of deterioration of health and functional status of patients who use it as an alternative?
- Is adult day care likely to be used as an additional service by some beneficiaries to such an extent that it actually raises overall expenditures for long-term care despite its cost-reducing effects on a case-specific basis?

Obviously, such added cost could be justifiable in terms of improved access to care by those who require it, but the decision to expand benefits should be made consciously and with benefit of projected additional expenses.

Home Health Services

Home health care has traditionally been regarded as an alternative to hospitalization or long hospital stays. It allows the final portion of the convalescence to take place at home, thus possibly reducing the total cost of care. More recently, home care services have been viewed as a means of preventing hospitalization altogether, or simply as a means of providing care in a convenient and appropriate setting—the home. Such care has been in existence for many years in its original form of "at-home nursing," but in recent years, the growing trend has been toward a more sophisticated and comprehensive approach to meeting the total medical, social, and rehabilitative needs of the patient (Steinberg, 1968).

This trend is probably in part the result of Medicare and Medicaid financing requirements that specify that those who provide home care must be able to provide more than simple nursing care. That is, home health care must be provided through a licensed home health agency that provides home health care and at least one other therapeutic service if it is to be eligible for Medicare reimbursement. This stipulation has, in effect, excluded from Medicare participation those small, mostly rural agencies which provide more limited services as well as agencies located in States without licensing requirements (Congressional Budget Office, 1977).

But the requirement reflects accurately the definition of home health services used in the Social Security Act which established home health coverage under Medicare. It also reflects a desire to avoid further fragmentation of the health care delivery system, among other goals. Current policy discussions suggest that changes in licensure requirements may be forthcoming, however.

Current policy has been summarized as follows (U.S. General Accounting Office, 1977):

- Part-time or intermittent nursing care provided by or under the supervision of a registered professional nurse.
- Physical, occupational, or speech therapy.
- Medical social services, under the direction of a physician, necessary to assist the patient and family in adjusting the social and emotional conditions related to the patient's health problem.
- Part-time or intermittent services of

the home health aide, including helping the patient with bathing and care of the mouth, skin, and hair, to the bathroom, in and out of bed, to take self-administered medication ordered by a physician, and to exercise.

- Medical services of an intern or resident-in-training under special circumstances.

The services are provided in the home in most cases, although under certain circumstances, they can be obtained on an outpatient basis at a hospital or similar facility.

Care is reimbursed by Medicare only if a physician certifies that the patient needs nursing care, physical therapy, or speech therapy as a means of recovery or to avoid an adverse change in condition. Home health services are not covered when the patient's condition becomes stable, and although the regulations specify that the patient must be severely limited in function and confined to his or her home, care is only authorized on a part-time or intermittent basis.

The distinction within Medicare coverage between Part A (which covers primarily institutional services) and Part B (which covers ambulatory services) applies to home health services despite the apparent contradiction. Part A provides coverage of home health visits when they are preceded by a hospital inpatient stay of at least 3 days. Coverage is limited to 100 visits during the year following the beginning of a spell of illness. Part B coverage does not require prior hospitalization. Visits are limited to 100 per calendar year.

The restrictive nature of these requirements has been a major cause of a generally recognized underutilization of home health care. Not only are the regulations and definitions restrictive, but their complexity also makes them subject to a variety of interpretations. Consequently, payment is sometimes denied to those who have supplied services. Although often cited as an important factor in long-term care financing, Medicare is, in fact, more geared to meeting the short-term needs of the acutely ill, rather than those with chronic illnesses or lasting disabilities (Kahana and Coe, 1975; Trager, 1972; and Congressional Budget Office, 1977). Medicare expenditures for home health care are projected to be less than half a billion dollars for fiscal year 1977 (Health Care Financing Administration, to be published).

Medicaid, the largest supporter of nursing homes, accounts for a relatively small amount of expenditures for home health care, only about $82 million in fiscal year 1977 (Health Care Financing Administration, to be published). States differ widely in services covered. In the interest of cost control, many States have adopted the Medicare regulations or established reimbursement rates significantly lower than Medicare rates. That Medicare and Medicaid home health services are underutilized is attested to by the fact that less than 1 percent of all expenditures for those programs are expended for home health (DHEW, 1977).

Homemaker Services

The concept of homemaker services was originally developed by welfare agencies in the early 1900's (DHEW, 1977). Homemakers were used primarily for child care. After 1958, there was a rapid increase in the number of agencies offering homemaker services for adults and families with children. With the passage of Medicare and Medicaid legislation in 1965, many welfare agencies extended their scope of services to include personal care as well as homemaker services to qualify for participation, although such care is not reimbursed under Medicare and Medicaid. The emphasis has since shifted to the adult population.

Amendments to the Social Security Act in 1975 that added Title XX were another milestone. This title provides grants-in-aid to States to pay for social services provided to the poor. Many States use their funds to reimburse agencies that provide homemaker services to low income people.

The services provided by a homemaker-home health aide range from housekeeping, shopping, preparation and planning of nutritious meals, and personal assistance with dressing and bathing to minor assistance with prescribed exercises, special mechanical aids,

and taking of medications. The homemaker-home health aide also can be a source of emotional support to the client. Aides can help patients adjust to their illnesses or disabilities and discover ways to adapt and help themselves in everyday activities. The duties of the homemaker-home health aide are designated by a supervisor, usually a registered nurse or a social worker with the cooperation of the patient's physician. Medicare coverage of the homemaker-home health aide is limited to so-called health-related activities, while Title XX pays for social services. Some providers argue that the distinction is meaningless.

Cost-Effectiveness of Home Care

Research evidence on the cost-effectiveness of home based care is mixed. In a recent issue paper on the subject, the Congressional Budget Office concluded that:

> "Few studies are available to support the proposition that home care is less costly than nursing home care . . . the most widely cited home care studies concerning cost savings are of short-term acutely ill patients" (Congressional Budget Office, 1977).

In a recent study, however, the Health Care Financing Administration (to be published) has estimated that a year of home services (based on the 1975 average of $428 per year for those 65 years of age) costs approximately half the monthly bill for a nursing home (using a 1975 nursing home cost average of $800 per month).

Hospice

The medieval concept of a way station for sick or weary travelers, the hospice, has taken on a related but different role today in the health care spectrum. In its modern form, the hospice concept means a special care setting or arrangement for care of the dying. Though hospices differ somewhat from program to program, most share a common set of characteristics which make them unique in the health care system (Hackley, 1977; Plant, 1977; Paige and Looney, 1977; Kolbe, 1977; Liegner, 1977):

- The goal of the hospice is to improve quality rather than quantity of life for the dying patient.
- The care emphasis is upon pain alleviation and control, continuity of care, and maintenance of patients' normal life styles for as long as possible.
- Home care is substituted for institutional care whenever possible, often up to and including death at home. When inpatient care is necessary, the primary objective is to avoid any sense of institutionalization. Family and friends are welcome at almost any hour. Food may be brought from home, pets are brought in for visits, street clothes are worn by the patient, alcohol use, shampoos, and outings are permitted without special medical approval.
- Family members as well as the dying individual are considered the "patient."
- Life support systems are not employed.

The prototype hospice program is St. Christopher's Hospice at Sydenham on the outskirts of London. The program was developed by Dr. Cicely Saunders, whose visits and lectures have led to development of such programs in other locations, including several in the United States. Plant (1977) described and contrasted several programs, each using slightly different approaches. The original St. Christopher program is freestanding, comprised of several wards with few private rooms. The patient's bed is considered his or her personal possession from the time of arrival until death. It is low enough to the floor to permit easy transfer in and out if this is an option for the patient. If not, the bed is wheeled as freely as a wheelchair to permit maximum patient mobility and change of scene. To enhance privacy and a sense of personal space, each bed is surrounded by a colorful curtain and appointed with personal belongings, comfortable chairs, flowers, and

paintings. Visiting hours are 8 a.m. to 8 p.m. and include visits by children of any age, birthday celebrations, and frequent interactions by the interdisciplinary hospice team (Liegner, 1977). "Polypharmacy," a term coined by Dr. Saunders, is employed to control pain and includes use of heroin administered orally at regular 4-hour intervals. Scheduled administration of such drugs is said to manage pain more effectively by not permitting it to develop fully while at the same time avoiding the psychological aspects of addiction (Liegner, 1977; Plant, 1977). Physical dependency does result but is not considered a practical problem for the terminally ill patient.

Other autonomous hospice units similar to St. Christopher's are operating at New Haven, Conn., and Tucson, Ariz. At St. Luke's Hospital Center in New York, a hospice unit is integrated into the hospital's regular inpatient program. Patients are selected (25 at any given time) for visits and support by a special hospice team consisting of one full-time nurse, two part-time clinical nurse specialists, four quarter-time physicians, a social worker, and a chaplain. The patient remains on his or her medical or surgical ward or other unit but is visited daily by the hospice team which offers suggestions about symptom control, gives support, prepares discharge plans, arranges for home care, or simply visits and listens to the patient talk.

As interest in the hospice concept has grown in recent years, the National Cancer Institute in the National Institutes of Health, within the Department of Health, Education, and Welfare has begun funding research and demonstration projects. One demonstration was funded at the New Haven hospice mentioned earlier and resulted in a lengthy report soon to be abstracted for public distribution. Three more demonstration projects, to be evaluated using a collaborative evaluation design, were funded in 1978 for 3-year demonstrations including 15 months of data collection. The three are at Riverside, N.J., operating under the auspices of Riverside Hospital; Boonton, the New Haven project already mentioned; and Los Angeles, under the auspices of the Kaiser-Permanente Health Plan.

Other Long-Term Care Alternatives

Other services have been devised to enable the disabled and elderly to remain in their own homes or at least in settings less restrictive than nursing homes. Among at-home services is the meals-on-wheels program, under which a nutritious meal is delivered to a person's home once each day. Friendly visiting is another service that uses volunteers to visit the homebound on a regular basis to insure social contact and to make available relevant community services and resource information. A telephone reassurance program run by volunteers provides the homebound with at least one contact per day and usually incorporates an emergency plan in the event that a call is not answered.

Under Title VII of the Older Americans' Act, a federally sponsored nutrition program is available to the elderly outside of the home. This program provides a hot meal once a day, usually at a public facility. Social contact is encouraged, and recreational activities are sometimes provided. The States allocate the combined Federal and State funds to local sponsors, who in turn employ the personnel needed and choose the site location. Participation in this program is largely dependent on the availability of transportation to and from the meal sites.

Congregate living has been viewed as a means of forestalling or entirely preventing nursing home institutionalization. Congregate living facilities range from foster homes with one or two elderly persons to large retirement villages. Of the hotels, apartments, and retirement complexes, some provide merely shelter, while others offer meals, housekeeping services, medical supervision, and social activities. Those providing few services seem to attract the more independent elderly, while the more supervised dwellings attract those that are more dependent (Lawton, 1970). In these situations, the elderly can maintain a semi-independent private apartment or house and still be a part of a communal setting. One example is the Highland Heights Apartments in Fall River, Mass. This low-income, barrier-free, public

housing facility for the physically impaired and the elderly is an extension of a community chronic disease hospital. Congregate dining, outpatient medical care, and other ancillary services are provided. Community agencies offer homemaker and visiting nurse services (Sherwood et al., 1973).

Church-sponsored group homes, which provide a large array of services and often are intended to provide life-long support in exchange for an initial lump-sum-payment or continuous monthly payments, are a related modality on which little research has been conducted.

Boarding homes that cater specifically to the elderly have long been used especially in urban areas. There has been relatively little research to date on boarding homes. One study is available which surveyed those in the Pittsburgh area of Allegheny County (Roberts, 1974). The sample consisted of 81 homes, of which about half were found to be unsatisfactory. It was found that serious deficiencies existed in these homes, such as overcrowding, lack of personal care, insufficient dietary provisions, and structural violations. Lack of any medical care or supervision was also a major problem. Some welfare recipients could afford only room and board with no allowances for medications. For others, prescribed medications were administered in a haphazard fashion. The study's author recommended that: All homes should be licensed; they should be periodically visited by a physician or medical team to determine the needs of the boarders; some homes should be renovated to meet quality standards; and there should be a standard-setting requirement including occupancy limits, designated areas for recreation and social activities, and a provision for the nutritional needs of the residents.

Additional research is needed in this area as well as most other aspects of long-term care alternatives.

SUMMARY

Ideally, a long-term care system would provide the most cost-effective care of the right level, at the right time, in the right setting, and at the maximum quality achievable within the state of the art. The system would be continuous, comprehensive, appropriate, and accessible. Since patients' preferences as well as their needs vary, long-term care should provide them options among which to choose. If the system were operating within the constraints imposed by relative scarcity of public funds and marginal utility, social choices about scope of public responsibility would be manifested in conscious trade-offs between additional units of long-term care and additional units of other social goods and services. These choices would result in financing the long-term care system to provide some or all of the following services:

- Preventive care and assessment.
- Restoration of physical and social functioning to maximum achievable limits or maximum reduction in the rate of deterioration of physical and social function.
- Provision of supportive services to those whose physical or psychiatric disabilities make them dependent.
- Maintenance at the maximum state of well-being or the maximum achievable quality of life for all.

The fragmented, narrow, resource-limited, and in many instances nonrational amalgam of services we now have in lieu of a long-term care continuum does not achieve these desiderata. Existing programs serve only a small proportion of those who would be served in an ideal system. They offer few or no choices and instead encourage placement at inappropriate levels of care. They promote dependency instead of encouraging maximum physical and psychological independence; they are neither comprehensive nor continuous and are of uneven quality. As Sherwood (1975) and others have noted, these programs emphasize physical supportive services while demonstrating little or no interest in improving quality of life and maximizing well-being.

Alternatives in long-term care could do much to improve the situation. New goals could be set and achieved, including improving the quality of life of large proportions of

the elderly population. Greater choice among care options could be provided. But such goals would be expensive. The Congressional Budget Office (1977) has estimated, for example, that improving long-term care services could cost between $0.9 to $1.6 billion in 1980 if no new recipients were brought into a slightly improved continuum, or $11 to $14 billion in the same year if coverage were made universal, without any means test, and services were substantially expanded.

Obviously the trade-offs are important. Additional research into ways to improve existing services, defining the new ones to be developed, and deciding who should be served in what settings are essential. Better estimates are needed of the size of the long-term care population, their preferences for different kinds of care, and estimates of the effectiveness and costs of various types of care for various types of patients. These would produce estimates of demand and costs under differing objectives for long-term care policy. Such estimates are badly needed considering the profoundly different consequences for cost, scope of coverage, and quality of patients' lives implied by differing long-term care policy options.

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CHAPTER VI

The Quality of Medical Care:

Methods for Assessing and Monitoring the Quality of Care for Research and for Quality Assurance Programs[a]

We have granted the health professions access to the most secret and sensitive places in ourselves and entrusted to them matters that touch on our wellbeing, happiness, and survival. In return, we have expected the professions to govern themselves so strictly that we need have no fear of exploitation or incompetence.

The object of quality assessment is to determine how successful they have been in doing so; and the purpose of quality monitoring is to exercise constant surveillance so that departure from standards can be detected early and corrected. But first it is necessary to specify what it is that is being assessed and monitored.

DEFINITION OF THE QUALITY OF CARE

The definition of the quality of care involves specification of three things: (1) the phenomenon that is the object of interest, (2) the attributes of the phenomenon on which a judgment is to be made, and (3) the criteria and standards for rating each attribute on a scale that ranges from the best possible to the worst. Since there is considerable lack of clarity concerning each of these three elements, the subject of quality assessment is surrounded by disagreement and confusion.

With regard to the phenomenon that is the object of interest, there are two schools of thought. The first limits itself to the performance of a health practitioner or a functionally related group of practitioners as they care for people who have become their patients. The second takes a broader view, insisting that a larger program or even system that purveys medical care is the object of concern. According to the second view, judgments of the quality of care should include an assessment not only of what happens to those who receive care, but also of how many people are unable to receive it, and of whether the distribution of care among those who need it is such that both individuals and total populations receive the kind of care that is expected to yield the optimum benefit. In other words, access and other aspects of resource

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allocation as well as external effects become attributes that are central to quality assessment. It should be noted, however, that these same attributes are not totally absent from the narrower perspective, since the factors that influence access to care also influence the ability of a person to continue as a cooperative patient, and the issue of resource allocation is germane to the manner in which practitioners apportion their own time among the many patients who demand attention. For the most part, this discussion shall be restricted to the performance of physicians as they manage their individual patients.

With regard to the attributes of the phenomenon on which a judgment is to be made, one can distinguish two domains. One is that of technical performance. Here, the heart of the matter is the application of medical knowledge and technology in a manner that maximizes its benefits and minimizes its risks, taking into account the preferences of each patient. The other domain is the management of the personal relationship with the patient in a manner that conforms to ethical requirements, social conventions, and the legitimate expectations and needs of the patient.

This division into two domains should not be taken to correspond to a distinction between the "science" and "art" of medicine. The balancing of the risks and benefits of medical procedures in each particular case is itself both a science and an art, depending on how much the mental operations that determine it are explicit and understood. The management of the interpersonal relationship is largely an "art" mainly because it has not received the systematic study that it deserves.

In any event, both the application of the science and technology of medicine and the management of the interpersonal relationship are critical to the quality of care, especially when seen from the viewpoint of the patient. Unfortunately, studies of the quality of care have emphasized the former and tended to neglect the latter, so that a great deal of the following description will be one-sided.

Another attribute, that of cost, is so important to social policy that it deserves separate mention. Traditionally, the cost of care has been excluded in arriving at abstract specifications of the quality of care, as if cost was no object and every patient was entitled to everything that medicine could offer. While this position has a strong ethical foundation, it ignores some important realities. Everyone agrees that patients should be spared any procedures that are of no benefit or present greater risks than benefits. Such procedures are costly and indicate poor judgment on the part of the physician.

Assuming that only those procedures are prescribed for which a net benefit is expected as indicated by the best available knowledge, it is also reasonable to assume that when money is scarce only those procedures will be used for which the net benefit, relative to cost, is very large. However, as money becomes more plentiful, care becomes more elaborate, and procedures are added which have a small net benefit relative to cost. If the patient was paying the bill and the situation was clearly explained to him or her, there is a point at which he or she would call a halt, having decided that the small additional benefit was not worth the extra cost. In fact, under the definition of quality adopted in this chapter, it would be the obligation of the physician to keep the patient and the family informed of the balance of risks and benefits and of the monetary cost of the expected net benefit, so that a joint decision could be made about what to do and when to stop. The decision is expected to be different from case to case. In more general terms, this concept leads to the conclusion that there is a monetary cost attached to each increment in "quality" and that patients in consultation with their physicians are expected to decide when the additional "quality" is not worth the additional monetary cost and is unwanted. This amounts to saying that it can no longer be called "quality."

All this assumes that each patient pays all the costs and receives the entire benefit from care. In our complex world this assumption does not hold. Health insurance and government programs spread the cost of care among many; the benefits of care may extend to persons additional to the one who receives it; and society may place greater emphasis on

the health of some segments, such as children, than others. This means that the social decision about when additional quality is not worth the additional cost may differ from the individual's decision. It follows that the physician may be torn between the interests and wishes of the individual patient and the obligations imposed by society. The understandable desire to avoid this moral dilemma may partly explain why physicians resist attempts to impose public standards for the quality of care. Unfortunately, the physician seems destined to always work attended by this dilemma. Formerly, the physician had to stop short of doing what he or she thought best for the patient when the patient could not afford it. Now the physician may have to stop short of what could be helpful to the patient because society has set a limit. But previously the physician sorrowed, if at all, in private, whereas now he or she is fearful of being pilloried in public.

CRITERIA AND STANDARDS OF QUALITY

For purposes of assessment the definition of quality must be made precise and operative in the form of specific criteria and standards which respectively specify the desirable attributes and their quantitative measurements. Here one encounters a fundamental problem. If quality consists of a precise adjustment of care to the particular requirements of each case, is it possible to formulate detailed specifications of what constitutes quality that apply to groups of cases? Most physicians would answer no. They would insist that a definitive assessment of quality must be based on a knowledge of all the particulars in a case, so that an assessor recognized to have superior skill can use his or her own judgment as a standard of comparison by mentally reconstructing the conduct of care that he or she would have recommended under the circumstances. Such assessments, using what are called "implicit" criteria, are extremely time-consuming and costly. They also tend to be unreliable unless performed by extremely competent and motivated physicians who are also skilled in doing assessments. Furthermore, the qualifications of any assessor may be challenged. For these reasons, those who propose to keep medical care under constant supervision have resorted to the formulation of "explicit criteria" that are supposed to represent at least acceptable practice (Payne, 1965). At one extreme, these criteria and standards represent what leading experts, using the best scientific evidence, consider to be the best practice. At the other extreme, they may be derived from the average practice of physicians in a community. Obviously, the stringency and presumed validity of these two formulations would be expected to be very different and, in practice, an attempt may be made to accept something intermediate.

The issue of validity is particularly vexing, no matter what kind of criteria is used, because not everything in medical practice is universally accepted or fully substantiated by "scientific" evidence. This means that there is a wide margin of doubt and controversy about at least some of the criteria and standards in almost any formulation. This is another reason why physicians resist being judged by criteria and standards other than their own. With preformulated explicit criteria there is the additional difficulty that the criteria cannot easily take into account the variability among different cases. This is handled by subclassifying cases into reasonably homogeneous classes and by dividing the criteria into two types that one might call "categorical" and "contingent." Categorical criteria are lists of procedures that must be performed in every case belonging to a class, or are never performed in such cases (Jacobs, Christoffel, and Dixon, 1976). Contingent criteria are lists of procedures that should be performed or may be performed in some cases but not in others, depending on the nature and circumstances of the cases. A further refinement is to specify for each procedure the frequency with which it is expected to be performed in a "representative" sample of the cases in any given class (Slee, 1974).

Most students of the subject would agree that explicit criteria formulated in this manner are useful devices for identifying cases

that are suspect because of noncompliance, and that the degree of compliance is a rough measure of quality. However, most physicians will insist that a definitive judgment in any given case cannot rest on compliance with criteria that are meant to apply to the "average case." It is still necessary to subject each case of questionable care to a judgment by expert physicians who are given all the relevant facts and expected to use not only the explicit criteria but also the much larger set of internalized implicit criteria which governs the care of individuals in all their complexities.

It follows that most systems for monitoring the quality of care employ a two-stage approach: one that identifies cases that do not conform to explicit criteria and another that submits these cases to detailed review by colleagues, a practice known as "peer review." Reviewers from outside may be used in addition to or instead of colleagues when the initial judgment is contested, when an outside agency has initial or supervisory responsibility, or when research is being done. This combination of initial screening followed by detailed review, either internal or external to the organization that provides care, meets the objectives of monitoring whenever there is the will and the ability to use it properly. It does not, however, fully meet the more rigorous requirements of a valid and reliable judgment on the quality of care. For that, it is necessary to specify in detail the appropriate strategies of care as judged by their benefits, risks, and costs. This subject shall be discussed later in the chapter.

APPROACHES TO ASSESSMENT

It may be inferred from the above that quality assessment is a judgment on the process of care provided by practitioners either individually or as a group. When direct information concerning the process of care is not available or is incomplete, inferences may be drawn concerning "process" by examining either "structure" or "outcome" (Donabedian, 1976). "Structure" means the material and social instrumentalities that are used to provide care. These measures include the number, mix, and qualifications of the staff; the manner in which the staff is organized and governed; space, equipment, and other physical facilities; and so on. The assessment of structure is a judgment on whether care is being provided under conditions that are either conducive or inimical to the provision of good care. Since the relationship between structure and process is poorly understood, inferences drawn from the former can be seriously challenged. There are stronger grounds for using "outcome" to indicate the quality of antecedent care.

The outcomes of care are primarily changes in health status that can be attributed to that care. A broader view includes changes in the health-related knowledge, attitudes, and behavior of the client (Sanazaro and Williamson, 1968). Health status can itself be viewed rather narrowly as physical or physiological function or, more broadly, as including psychological function and social performance (Breslow, 1972). In fact, there is a great deal of current research into ways of combining all these elements into a single measure that not only reflects survival but also gives an indication of the quality of life (Fanshel and Bush, 1970; Berg, 1973; Elinson, 1976). If successful, such measures would express the quality of care in terms of its contribution to the duration and quality of life. More precisely, the quality of care is proportional to the extent to which possible improvements in the quality of life are attained as a result of that care, assuming cost is no object.

In recent years this eminently reasonable and beguiling concept has gained a large following and has intensified the controversy between those who emphasize the assessment of process and those who swear by outcome. This controversy may arise from a misconception. Quality assessment is not clinical research that is designed to establish the relationships between process and outcome. It is a judgment on the process of care that uses what is already known about that relationship, given the limits of current medical science. It is true that process elements can be used as indicators of quality only if there is a valid relationship between these elements and the desired outcomes. It is equally true

that specific outcomes can be used as indicators of the quality of care only to the extent that there is a valid relationship between the two. Thus, validity resides not in the choice of elements of process or outcome but in what is known about their relationship. If a valid relationship exists, either may be used, depending on which one can be more easily and accurately measured; if not, neither can be used.

STUDIES OF THE QUALITY OF CARE

Each study of quality can be categorized in so many ways, and the clusterings of attributes are so indistinct that it has been impossible to devise a satisfactory, simple classification. The discussion in this chapter shall ignore studies that rely mainly on evaluations of structure and will use the following classification for the remainder:

I. Studies mainly of structure

II. Studies mainly of process
   A. Direct observation of practice
   B. Studies based on the medical record
      1. The presence or absence of selected critical elements of care
      2. Justification of surgery and other major procedures
      3. Audits using explicit criteria
      4. Audits using implicit criteria

III. Studies mainly of outcome
   A. Morbidity, disability, mortality, and longevity in communities and populations
   B. More refined measures of morbidity, disability, mortality, and longevity
      1. Preventable adverse events
      2. Preventable progression of disease
      3. Diagnosis-specific outcomes
      4. Postoperative mortality and morbidity
   C. Assignment of responsibility for adverse events
      1. With prior specification of expected outcomes
      2. Without prior specification of expected outcomes

IV. Studies that combine process and outcome to show system effects
   A. "Trajectories"
   B. "Tracers"

V. Evaluation of strategies
   A. Criteria maps
   B. Testing of strategies
      1. By modeling
      2. By clinical trials

A brief review of selected studies drawn from this classification can illustrate and raise questions about specific methods of assessment, while providing information about some factors that influence performance. But, because some of these studies are old and almost all have examined highly circumscribed situations, no conclusion can be drawn about levels of quality in general, other than that whenever the quality of care has been examined serious and widespread deficiencies have been found. It is likely that in all human endeavors, if sufficiently strict standards are used, all shall be found to have failed in some degree. This is certainly the case in assessing the performance of physicians.

Assessments of the prevailing levels of quality in the United States or elsewhere must rely on gross measures of longevity, mortality, and morbidity, the use and distribution of services, the frequency of surgical operations, and the like. Although these measures are important, they are influenced by so many unexamined variables that it would be foolhardy to use them for confident assertions.

STUDIES OF THE PROCESS OF CARE

Reputations of physicians arise to a large extent from the opportunities that colleagues have to observe each other at work. The openness of practice to such observation is, in fact, a major safeguard of quality and a cogent argument in favor of organized forms

of practice. It is particularly interesting, therefore, to find the first important use of direct, formal observation with a view to assessing the quality of care in a study of rural general practice, that most isolated and secret corner of medicine (Peterson et al., 1956).

The method used was to have a qualified physician with the permission of his or her host observe the latter in caring for patients who were making the first visit for a new illness. In this way, it was possible for the observer to make a judgment about the completeness of the examination, the appropriateness of further investigation, and the suitability of treatment. As a result, 25 percent of practitioners were rated superior or good, whereas 44 percent were judged to be below an "average" or acceptable level of performance. The better practitioners were more likely to be younger, to see patients by appointment, and to have access to laboratory services; but, above all, they were more likely to have had a period of training in internal medicine subsequent to graduation from medical school. All these are structural characteristics conducive to better care, though they do not assure it. Other studies using the same approach suggest that general practice in other countries may suffer from similar characteristics and handicaps (Clute, 1963; Jungfer and Last, 1964).

That the observation of practice is a method with wider applicability is shown by a study of the interaction between nursing personnel and randomly sampled patients in selected hospitals in the Detroit area (Janzen, 1974). More interesting than the apparent levels of performance were findings that suggested differences related to the characteristics of patients. Aspects of nursing care tended to be less satisfactory for patients other than white, for patients in wards with many beds, for those who had cancer with a poor prognosis, for younger females, and for older males. Because of the nature of this study, these findings cannot be accepted as conclusive, but they do illustrate a problem of great social significance: the extent to which the quality of care may differ according to the social or economic characteristics of clients either because the sources of care are different or because the same sources are guilty of discriminatory behavior.

The direct observation of practice is costly and time-consuming. Such observation may also alter the behavior being observed, although those who have used it say that the presence of the observer is soon forgotten and the subject lapses into his or her usual routine. The analysis of medical records is less obtrusive and more easily subject to checking by several judges, but it suffers from the limitations in the completeness and veracity of the record, especially in office practice. This has led to criticism of this method for being an assessment of recording rather than of care. However, the criticism has been countered by the argument that recording is an important element in care and that there is an association between the quality of recording and the quality of care (Rosenfeld, 1957; Lyons and Payne, 1974).

The analysis of the record of care varies greatly in breadth and detail. At one extreme, all that is sought is information about a small number of critical elements that are important in themselves but are also representative of aspects of care not directly observed. Such critical elements or indexes can be formulated so that they are applicable to all patients or to subgroups of patients characterized by age, sex, diagnosis, and the like. For example, in the records of office care, one can look for the frequency with which blood pressures are measured; rectal and vaginal examinations are done; the eyegrounds and ears are examined using the appropriate instruments; cultures for streptococci are taken; the urine of pregnant women is tested; sedatives, tranquilizers, and antibiotics are prescribed; injections are given when the drugs could have been taken by mouth; and so on (Ciocco, Hunt, and Altman, 1950; Anderson, 1969; Rosenberg et al., 1976; Brook and Williams, 1976). Hospital records offer opportunities for the construction of much larger lists of such indicators with greater assurance that the necessary information is in the record (Eislee, Slee, and Hoffman, 1956).

A favorite type of investigation is to locate reports of abnormal laboratory findings which physicians agree require attention and

to determine how often these go unnoticed, are ignored, or are dealt with inadequately. For example, in the general clinic of one university hospital, about a fifth of such abnormalities were not followed up (Huntley et al., 1961), and in one community hospital, more than half of the abnormal findings were either ignored or inadequately handled (Williamson, Alexander, and Miller, 1967). In general, when the results of investigations that attempt to characterize critical elements of practice are assembled, it is astounding how variable practice is found to be, and how often it seems to depart from standards of supposedly good care.

Developments in data acquisition and processing have stimulated the use of various records in assessing and monitoring care and greatly amplified their usefulness. Data from records of ambulatory care, abstracts of hospital charts, and the claims for payment that are submitted to insurance companies and government programs can all be fed into the computer to be rapidly processed and collated with other, prestored information about the patient, the practitioner, or the hospital and its subdivisions. In this way, aberrations in practice can be identified, located, and subjected to more detailed scrutiny if their frequency or importance justifies it.

Besides serving as a searchlight that may expose and embarrass the physician, the computer can also be a friend and ally. It is possible to develop a system of information that alerts the physician when some predetermined critical events have occurred so that intervention may be made if he or she sees fit. Since inattention rather than ignorance appears to account for many "errors" in care, computer-aided management could be a major safeguard of the quality of care (McDonald, 1976; Barnett et al., 1976).

One step up in the progression from presumptive indicators of quality to more inclusive and definitive assessments of the quality of care is the justification of surgical intervention and of other major procedures. The justification of surgery can itself be arranged into a progression. Even before surgery occurs, the initial recommendation can be subjected to verification by one or more consultants, a procedure that is now required by several insurance plans. In one such program, the consultants disagreed with the initial recommendation in 18 percent of the cases, with large differences according to diagnosis, ranging from 10 percent for breast surgery to 34 percent for orthopedic operations (McCarthy and Widmer, 1974). Of course, the superior validity of the second opinion can be challenged, and it can only be established by finding out what happens to those who are operated on and to those who are turned down. In one such study, 30 percent of the latter had an operation anyway, half because they ignored advice and another half because they continued to have symptoms (McCarthy, 1976).

As to those already operated on, two steps are available in the progression toward more rigorous justification. The first is to determine whether the tissue removed is sufficiently diseased to justify its having been removed. The simplicity and usefulness of this procedure has made it standard practice in any well run hospital. In part, the validity of this procedure depends on the skill and integrity of the pathologist. But no matter how expertly the tissue removed is judged, the justification of surgery cannot rest on this alone. The decision to operate depends on weighing the risks of operating unnecessarily against those of not operating when necessary; and the best judgment is likely to be attended by the removal of some normal tissue. Therefore, a definitive judgment on any operation must go an important step beyond the condition of the tissue removed and include additional circumstances of the case. This is well illustrated in a comparison of appendectomies in the teaching and community hospitals of Baltimore (Sparling, 1962). In the teaching hospitals which presumably typify the best practice, about a third of the tissue removed was normal or not clearly diseased, and this proportion was the same whether the patients were on welfare or were private patients who paid for their own care either directly or through an insurance plan. In the community hospitals, however, the proportion of appendectomies with normal or near-normal tissue was higher and varied according to how the patient paid the hospital and physician. The proportion was

40 percent for welfare patients, 42 percent for patients who paid for their own care, 50 percent for those who had insurance other than Blue Cross, and 55 percent for those who had Blue Cross.

This one study cannot be considered definitive. However, one wonders if having near-complete protection against the costs of medical care, whether under a private or a governmental insurance plan, will markedly increase the likelihood of having "unnecessary" surgery. An accumulation of evidence suggests that the answer is yes.

There are wide variations in surgical rates within the United States and among nations. At least to some extent, the incidence of surgery is related to the prevalence of surgeons (Lewis, 1969; Wennberg and Gittelsohn, 1973; Lichtner and Pflanz, 1971; Vayda, 1973). Surgery is also more frequent when surgeons work alone and are paid per operation than when they work in groups and are paid a salary (Donabedian, 1969a; Roemer and Schonick, 1973). While one is justified in concluding that much "unnecessary surgery" is being performed, it is also true that the proper rate of surgery is not fully established. A usual test for the appropriateness of surgery, when faced with a difficult decision, is for the patient to ask his or her physician what the physician would do if the patient were a member of the physician's family. Using this test, more than half of the women would have had their uteruses removed by the time they were 65 years of age, a proportion that is much higher than what is considered to be an already inflated 35 percent for the general population of women (Bunker and Brown, 1974).

A more complete assessment of surgical and medical care is obtained by an elaboration of the critical indicators of care. These may be integrated into the longer diagnosis-specific lists of explicit criteria referred to earlier in the chapter. The percent of compliance with these criteria, with equal or different weights attached to component items, can be used as a summary measure of the quality of care. Using this method, a study of a sample of hospital cases in Hawaii provides a rare view of an important segment of care in a large population in its natural habitat. The overall performance score was 71 percent of perfect compliance with the criteria. Unfortunately, a frequency distribution of scores is not given, nor can a judgment be made as to whether 71 percent is good, bad, or indifferent. An application of the same method to an admittedly biased sample of office care in Hawaii yielded a distinctly dismal score of 41 percent of full compliance, judging by the information in the record (Payne et al., 1976).

A final judgment of the quality of care in each case should not rest on compliance with explicit criteria alone, however. It should be based on a review of all the known facts by one or more experts who use the entire range of their own knowledge and experience to arrive at a judgment. An example in this tradition was the study of the quality of hospital care received by members of the Teamster's Union in New York City. Each of two eminent physicians was given the entire record of each case and asked to rate it using as a criterion how he or she would have managed the case. As a result, 43 percent of the cases were judged to have received less than "optimal" medical care (Morehead and Donaldson, 1964).

In both the Hawaii and the Teamster's studies some attention was given to finding out what factors are associated with the quality of care (Rhee, 1976). The following is a reasonable interpretation of these studies. The most important single factor associated with the quality of hospital care is the nature of the hospital itself. Care is best in large, urban, university-affiliated hospitals and worst in proprietary urban hospitals and other small hospitals, whether urban or rural. Physician specialization is also a positive factor, although its salutary influence is weaker, and is felt only when practice is confined to the area in which the physician has specialized. Once outside his or her domain, the specialist may do worse than the generalist. The importance of the hospital in safeguarding quality is most important for the generalist, while outside the best hospitals the specialization of the physicians is the important safeguard. Physicians in the larger group practices provide better hospital care, but this appears to be mainly due to the use of

specialists by the groups. In office care, group practice has a small edge over solo practice, but the data are not reliable. Perhaps more important than all these associations is the observation that a large part of the variation in performance remains unexplained, which suggest that the measurements used may be faulty and that there is much about the determinants of performance that is not understood.

STUDIES OF THE OUTCOME OF CARE

The incidence and prevalence of illness and disability, the incidence of mortality and measures of longevity are obvious indicators of the health of a population. But medical care makes only one rather small contribution among the many social and biological factors that determine such outcomes. Considerable refinement is needed to reveal the effects of the quality of care.

Outcomes can be made more sensitive and specific measures of the quality of care by careful selection so that they pertain to specific categories of patients, are preventable or attainable by good medical care, and are measured only after corrections are made for characteristics that influence the degree of success that even the best medical care can be expected to achieve. Recently a large list of measures that are considered to be responsive to medical care have been offered as indicators of the quality of care in communities (Rutstein et al., 1976). It has also been suggested that the stage at which diseases first come under attention, or when patients are admitted to the hospital for the first time, says something about how easy it is to gain access to care and how good that care is (Gonnella and Goran, 1975; Gonnella, Louis, and McCord, 1976). It is also possible to specify for selected diagnoses and conditions the most useful outcomes to measure, when to measure these outcomes, and what patient characteristics to take into account so as to isolate the contribution of medical care to the selected outcomes. It is much more difficult to specify the extent to which variations in the quality of care will be reflected in these outcomes (Brook et al., 1977).

The study of postoperative mortality and morbidity can be taken to represent the class of more specific and refined studies of outcome. It has been known for a long time that there are large differences in postoperative mortality among hospitals. In one notable instance, a 25-fold difference was observed among 34 medical centers. Corrections for differences among medical centers in factors, such as type of operation and the patient's age and physical status, reduced the spread to a 7-fold difference in some operations and a 3-fold difference in others (Moses and Mosteller, 1968). So disturbing were these large and unexplained differences that another study was conducted in which every attempt was made to correct for patient characteristics that might have accounted for the differences observed. Real and significant differences remained, suggesting that the chances of similar patients experiencing serious complications or death following the same operations can be 2 or 3 times as high in some hospitals as in others (Scott, Forrest, and Brown, 1976). One suspects that even these large differences do not tell the full story, because it is not certain that in situations of high risk the benefits of operating are always higher than the risks.

When outcomes are used to monitor care in an institution or program, every major adverse event and a sampling of other "critical incidents" require careful analysis so that future performance can be improved (Quality of Surgical Care Subcommittee, 1976). Physicians may become more aware of the consequences of their actions if they can be persuaded to specify ahead of time precisely what improvements in health they expect for patients in specified categories, so that their achievements can be compared with their expectations (Williamson, 1971). But whether or not the expected outcomes are specified in advance, there is no escape from the responsibility to review and assess the care itself. Such "retrospective" assessments can also be a primary research tool. Notable exemplars are the early studies of maternal and newborn mortality by the New York

Academy of Medicine. In 1930-32, 66 percent of deaths of women in childbirth were judged by a "conservative" estimate to be preventable, and of these, 61 percent were ascribed to the physician because of errors in judgment or in techniques (New York Academy of Medicine, 1933). In 1950-51, 42 percent of deaths in the newborn who were not premature were judged to be preventable, and of these, about 80 percent were attributed to errors in medical judgment or technique (New York Academy of Medicine, 1955). In both studies the type of hospital and the qualifications of attending physicians had an important bearing on the outcome, which was life itself. These deeply disturbing findings resulted in the introduction of many controls, including regular reviews of all maternal and infant deaths, and these controls have been credited with at least some of the remarkable improvements that have occurred since. In spite of spectacular declines in mortality, a recent review of trends in maternal mortality in Michigan from 1950 to 1970 shows that the percent of deaths judged "preventable" has increased markedly from about 60 percent to about 80 percent (Schaffner et al., 1977). As standards of care are raised, perfection seems to become even more difficult to achieve.

PROCESS AND OUTCOME COMBINED

Two methods of assessing the quality of care can be put in a separate category because they are designed to dissect elements of a system that delivers care using a combination of process and outcome measures. One method, which may be called the "trajectory" method, selects one or more diseases or conditions and follows patients from the time they come for care to some time after their care presumably ends. In this way, it is possible to examine the successive steps of care in a progression and to document the final effect of this experience on the health of the patient. One such study dealt with a group of patients who came to the emergency room of a city hospital with gastrointestinal symptoms. The results of this study indicated that 33 percent of the patients did not show for all recommended examinations and 12 percent were not adequately examined; also in 15 percent, there were abnormal findings which were not treated appropriately. These factors add up to a failure rate of 60 percent. When the effects of treatment were taken into account, the patient's encounter with this particular institution was judged to have had a salutary effect in only 27 percent of the cases (Brook and Stevenson, 1970).[1]

The second method begins with a mental map that subdivides the medical care system into domains of function and responsibility, making it possible to select a number of diagnoses or conditions as indicators of the quality of care in each subpart. Each diagnosis or condition functions as a "tracer"; and the set of tracers can be considered to provide what is analogous to a set of carefully selected soundings of an unexplored terrain (Kessner, Kalk, and Singer, 1973). This attractive notion has been tested partially by using as tracers the occurrence and the management of anemia, ear infection, hearing loss, and visual defects to assess medical care for children from 6 months to 11 years of age in selected areas of Washington, D.C. From this exploration, a dismal picture of much unrecognized, preventable, and improperly treated pathology emerged. For example, 12 percent of children 4 to 11 years of age need glasses but do not have them. Of those who have glasses, 31 percent do not need them, 37 percent do not have adequate correction, and 5 percent have glasses that make their vision worse rather than better (Kessner, Snow, and Singer, 1974).

EVALUATION OF STRATEGIES OF CARE

Patient care is a planned activity that involves choosing specific elements from a potentially large pool of such elements, and properly sequencing them in order to achieve

[1] Some of the figures cited differ slightly from those in the original because of recomputation in order to get mutually exclusive categories.

specified diagnostic and treatment objectives. A plan of action, as well as the pattern of actions that result, can be called a strategy. The essence of quality, that elusive thing called "clinical judgment," lies in the choice of the most appropriate strategy for the management of any given situation. The alternative strategies that a physician might reasonably consider can be specified in the form of a decision tree which indicates alternative courses and their consequences. To each of these, a probability can be assigned preferably based on demonstrated fact or, when this is not available, based on expert opinion. The balance of expected benefits, risks, and monetary costs, as evaluated jointly by physician and patient, is the criterion for selecting the optimal strategy for that patient (McNeil, Keeler, and Adelstein, 1975a; Pliskin and Taylor, 1977). The construction and use of models that incorporate existing knowledge can be very helpful in arriving at a more definitive specification of quality because the best course of action suggested by intuition may not be the best indicated by more formal decision analysis. Moreover, such models, by revealing critical deficiencies in existing knowledge, stimulate research so that, in the end, the specification of optimal management may be firmly established.

The results of such developments are beginning to be felt in the field of quality assessment. Perhaps the first step has been the construction of "criteria maps" as a substitute for the more usual lists of explicit criteria. Mapping represents a step-by-step scheme of actions that are taken to make a diagnosis, to search for complications, to select a mode of treatment and implement it. It recognizes that there are alternative, acceptable ways of meeting each requirement (for example, a valid diagnosis) and that succeeding actions are dependent on prior findings. Such criteria maps are now being used in quality assessment on a trial basis (Greenfield et al., 1975). The next step will be a linkup with the large body of work that is now going on, quite independently of the activities of quality assessment, in modeling and testing strategies of care (Ginsberg, 1971; Schwartz et al., 1973; McNeil and Adelstein, 1975b; McNeil et al., 1976; Tompkins, Burnes, and Cable, 1977). The empirical testing of such strategies using careful clinical trials will provide the bedrock upon which all quality assessment, in fact all of clinical medicine, must ultimately rest (Cochrane, 1972).

CONTEXT FOR MONITORING

That the content of medical practice must be subjected to constant surveillance is an idea that has slowly gathered strength and finally emerged as a principle supported by law. The ostensible purpose is "quality assurance," though this is perhaps too ambitious a goal since "assistance" or "enhancement" is the most that can be hoped for. The quality of care depends on many factors, including the selection of students and their education and training as well as their socialization into young professionals; opportunities for continuing education and renewal; the availability of the instrumentalities and financing that permit the application of the full potential of medical science; and the professional and financial incentives that influence the behavior of physicians. The monitoring of the physician's work is meant to generate one additional incentive to appropriate performance.

Whenever physicians work together, much informal monitoring occurs through the sharing of patients, formal and informal consultations, teaching activities, and the like. A system of formal monitoring could be the least important among the many safeguards of quality, but it is necessary all the same. It is the only means for obtaining reliable information about how the system operates; it is less capricious and more fair than reliance on informal and partial information; it can be a powerful incentive to self-examination and learning; and it is one more way in which the profession can demonstrate its accountability to the public.

Traditionally, the professions have been largely responsible for regulating their own conduct in the interest of higher standards,

with government assuming a supportive and reinforcing role. In general, medicine has a proud record of achievement in this respect. But in recent years, the feeling has grown that it should either do more or relinquish some of its prerogatives by accepting supervision from the outside. Many factors have contributed to this state of affairs. Most important has been the far reaching change from individual to collective financing of health care through private health insurance programs. For many years, the private health insurance companies and organizations, as well as the representatives of the larger groups of purchasers of insurance, have been unhappy about the increase in the costs of care without assurance of the needfulness and the quality of the services received. However, there was little that could be done beyond questioning the most obvious abuses. But when the Federal Government itself became the largest payer by instituting Medicaid and Medicare, there was the means and eventually the will to assert that whoever pays the piper can call the tune. The sharpest goad to action was no doubt the enormous drain on the Federal Treasury; but there was also concern for the quality of care, and a need to establish accountability of the programs to Congress and of Congress to the electorate. The latter was now a better informed and more demanding public.

Antecedent to and parallel with these developments there were several others. First was the gradual concentration of a critical section of care in the hospital which emerged as a dominant center of organized practice. Second was the increasing recognition by the public, by hospital trustees, and by the courts of the hospital's responsibility for quality of the care delivered by physicians in it (Shain and Southwick, 1966; Curran, 1971). Third was the development, piece by piece, of the conceptual apparatus, the methods, and the technology of quality assessment and monitoring and their incorporation in several prototypes in actual practice (Donabedian, 1969b). All these, working together, set the stage and provided the instruments and the opportunity for a bold legislative initiative which was part of the Social Security Amendments of 1972.

PROFESSIONAL STANDARDS REVIEW ORGANIZATIONS

The legislation makes provisions for setting up a Professional Standards Review Organization (PSRO) in each of the areas designated under this law (Public Law 92-603). The dual objectives of PSRO legislation are to improve the quality of care and to contain costs. Although it is too early to know whether either objective is being met, the expectation for quality assurance under PSRO as well as cost containment have been insistently discounted by critics of the PSRO's.

Local PSRO responsibility is currently limited in scope to monitoring hospital and nursing home care provided under specific government programs, primarily Medicare and Medicaid. Surveillance may be exercised directly by the PSRO. Alternatively, it may be delegated to the individual hospitals which assume the responsibility to review their own care, provided they are found capable of doing so. In either case, the supervision of medical practice is put in the hands of the physicians themselves. Such supervision extends over the appropriateness of admission, the length of stay, and quality of care in the designated institutions. As the basis for its review activities, the PSRO must formulate explicit criteria, norms, and standards that cannot differ significantly from their more widely applicable regional counterparts which are promulgated by the National Council, unless differences are justified.

The role of explicit criteria in the activities of the PSRO's is often not well understood. Consequently, they have been attacked as dubiously valid, as paying no attention to aspects of care beyond those that are purely technical, as insufficiently adaptable to variations among individual patients, as conducive to a stereotyped, unthinking form of "cookbook" medicine, as inhibiting innovation and progress, and as diverting attention from the outcomes of care in favor of emphasis on process. PSRO's are aware of these criticisms which they believe do not reflect the more recent refinements in their criteria or the judicious flexibility with which criteria are applied. Nevertheless, some critics continue

to argue that the university medical centers should be excluded from the jurisdiction of PSRO's in the interests of teaching, learning, and research (Kavet and Luft, 1974). Others have asked that the Health Maintenance Organizations also be excluded lest they be handicapped in their attempts to provide effective care at lower cost by the dead weight of insufficiently proven criteria (Havighurst and Bovbjerg, 1975).

As stated, it is still too early to cite any conclusive assessments of the impact of PSRO's which might lend credence to any of these arguments. The evidence concerning the effects on use of services, quality of care, and costs is in the process of being assembled. An effect on the health of the people who receive care under PSRO guidelines may prove impossible to demonstrate (Institute of Medicine, 1976). In the meantime, it would seem that if the PSRO's conscientiously implement their mandate, there is bound to be an improvement in quality, in cost, or in both. Should they fail to do so, there could be pressure for more vigorous policing by agencies outside the medical establishment including the insurance carriers, the State health department, or an agency of the Federal Government itself. Under any conditions, constant monitoring will have to be maintained because without it medicine cannot see itself, nor know where it is going.

SUMMARY

In classifying the major approaches to the assessment of the process and outcomes of medical care and briefly describing illustrative studies and their findings, the need to safeguard and enhance the quality of care is apparent. This need has led to the institution of mechanisms that subject care to constant review so that deficiencies may be found and corrected. The Federal Government has become involved in this activity through its sponsorship of Professional Standards Review Organizations (PSRO's). It is too early to say how effective the PSRO's will be. However, should they fail to accomplish their objectives, the necessity for more radical solutions will be difficult to resist.

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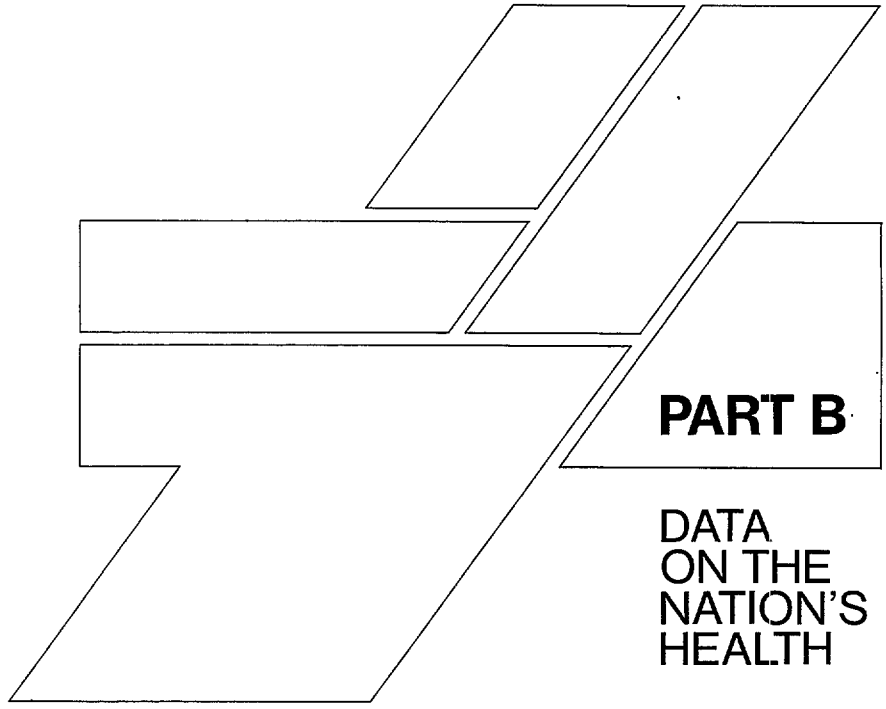

PART B

DATA ON THE NATION'S HEALTH

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SECTION I

Health Status and Determinants[a]

A. Population

The total population of the United States was estimated to be 217.7 million at the beginning of 1978, an increase of approximately 0.4 percent or 900,000 people since the middle of 1977. From 1950 to 1978, the population of the United States increased by about 44 percent. However, while the population is still growing, it is doing so at a much slower rate than it did during the 1950's. On an average annual basis, the rate of population growth has decreased from an average level of 1.7 percent per year for 1950–55 to 1.1 percent per year for 1965–70 and about 0.8 percent per year during the 1970's. Data for the most recent years indicate a probable upturn in the rate of growth as a result of the projected increase in the number of births.

The major factor that accounts for the slower population growth since the 1950's and 1960's has been the decrease in the annual number of births from 4.3 million in the late 1950's and early 1960's to 3.2 million in 1976. From 1955 to 1976, the crude birth rate decreased from 25.0 to 14.8 births per 1,000 population, while the crude death rate decreased from 9.3 to 8.9 deaths per 1,000 population. Consequently, the rate of natural increase (i.e., a measure of population growth based on the excess of births over deaths exclusive of migration) declined by more than three-fifths since 1955 to a level of 5.9 per 1,000 population in 1976.

Along with natural increase, net immigration also affects population growth. Although estimates of net immigration are not as reliable as are vital rates and are further complicated by a large illegal immigration component, some trends are evident. Since the mid-1950's, legal immigration levels have remained relatively stable. However, net immigration continues to contribute an increasing proportion to overall population growth, mainly because of a decrease in the birth rate rather than a large increase in the immigration rate.

Continuation of the average annual growth rate of 0.8 percent experienced in the United States from 1970 to 1976 would double the population of the United States in about 87 years. The average annual rates in other selected industrialized countries varied from 2.4 percent in Israel (29 years to double in size) to lows of 0.5 percent in France (139 years to double) and 0.2 percent in Switzerland, the German Federal Republic, and England and Wales (347 years to double). In the German Democratic Republic, the population decreased at an average annual rate of 0.3 percent between 1971 and 1976.

Recent projections of the total population indicate that the United States population will increase to nearly 233 million people by 1985, assuming that women average 2.1 births, that death rates continue their slow

[a] Prepared by Lois A. Fingerhut, Division of Analysis, National Center for Health Statistics.

and steady decline, and that net immigration remains constant at 400,000 people per year. Under the same assumptions, the population is projected to reach 260 million people by the year 2000, a 27 percent increase from 1970. However, if the approximate level of the current total fertility rate prevails at 1.7 births per woman, the total population in 2000 may be only 246 million.

In 1976, the number of males residing in the United States was about 5 percent less than the number of females. The sex ratio (i.e., the number of males per 100 females) decreased as age increased. There were about 105 males per 100 females at birth, about 100 at 20–24 years of age, about 79 at 65–69 years of age, and about 47 at 85 years of age and over. The declining sex ratio reflects the much higher death rates for males than for females at 15–69 years of age.

About 7 percent of the population in 1976 were under 5 years of age, 24 percent were under 15 years of age, and 11 percent were 65 years of age and over. About 87 percent were white, and the median age of the white population was 6 years higher than that of the black population.

During 1976, an estimated 1.6 million people were institutionalized in facilities other than long-stay hospitals or correctional facilities, according to the Survey of Institutionalized Persons.

In looking at population projections, an even more important factor to consider than overall size is the projected age distribution. Considerable growth is expected in the proportion of the population 25 years of age and over. In the year 2000, there will be 56 percent more people 25–44 years of age, 41 percent more people 45–64 years of age, and 58 percent more people 65 years of age and over than there were in 1970. A net decrease of 1 percent is projected for the population under 25 years of age.

These changes could have profound implications for the Nation's health care delivery system and its financing. Because of the growing elderly population there will be an increasing need for long-term care, including nursing homes as well as alternatives to nursing homes, such as home health services, adult day care, homemaker services, etc. In addition, more short-term facilities will be necessary in the future since the elderly average more than 3 times the number of days of care per person than does the whole population.

The child dependency ratio (i.e., children under 18 years of age per 100 persons 18–64 years of age) is projected to decrease by nearly 30 percent from 60.6 in 1970 to 43.2 in 2000. The aged dependency ratio (i.e., elderly people 65 years of age and over per 100 persons 18–64 years of age) is projected to increase by about 14 percent from 17.5 to 19.9 during the same period. Based on this projected increase in the dependent elderly population, an increase in the institutionalized population may be anticipated, carrying with it greater demands for high quality long-term care.

The total dependency ratio in the United States (54.2) is similar to the ratio in other selected industrialized European countries (the Netherlands, the German Federal Republic, Switzerland, and Italy), Canada, and Australia for 1976.[1] The high dependency ratio in Mexico, in particular the high child dependency ratio, is a reflection of the large proportion of the population there under 15 years of age. A large youthful population may have serious implications not only for Mexico's ability to provide the services needed by such a large and vulnerable segment of its population but also for the problem of illegal immigration to the United States.

Between 1971 and 1976, the child dependency ratio in the United States decreased by 16 percent, a greater decrease than in any of the other selected countries except Canada where the ratio decreased by 15 percent between 1971 and 1975. This large decline is explained by the increased number of people from the World War II "baby boom" generation who were young adults 20–30 years of age in 1976. Both the United States and Canada sustained rapidly increasing fertility after World War II, followed by decreasing fertility in the 1960's and 1970's.

[1] For international comparisons, the dependency ratio is calculated using the population under 15 years of age rather than the population under 18 years of age.

The geographic distribution of the population has been affected by both natural increase and internal migration. In the past, regional outmigration was offset by a surplus of births over deaths; today, outmovement, particularly from metropolitan areas, often results in a decrease in population.

The growth of nonmetropolitan areas in the 1970's surpassed that of metropolitan areas. Between 1970 and 1976, the population of nonmetropolitan counties increased by 8 percent compared with 5 percent in metropolitan counties. Net migration, including international migration, contributed 2.3 million people to nonmetropolitan growth, more than 4 times as many as to metropolitan growth (0.5 million). In contrast, between 1960 and 1970, nonmetropolitan areas lost 3 million people through net migration, while metropolitan counties gained 6 million.[2]

The nonmetropolitan counties with the most rapid growth have been "retirement counties."[3] Between 1970 and 1975, their population grew by 17.1 percent with a net inmigration of about 217 thousand people annually. About 84 percent of this total growth was the result of net migration.

People who move to nonmetropolitan areas tend to be older and lower on the socioeconomic scale than those who move to metropolitan areas. Consequently, people moving to nonmetropolitan areas may be less healthy and more in need of medical care than those moving to metropolitan areas.

There are other factors that may affect health care services in nonmetropolitan and metropolitan areas. First, the number of elderly people is projected to increase faster than any other segment of the population. Second, people immigrating into an area may encounter problems in obtaining medical care or may place demands on the health care system which are different from those of established residents. Third, health care resources and services are not distributed evenly across the United States, and they are often inadequate in nonmetropolitan areas. All of these factors may complicate the process of planning for adequate health care services in nonmetropolitan and metropolitan areas.

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[2] Beale, C.: Testimony on Internal Migration in the United States Since 1970, U.S. House of Representatives, Select Committee on Population, Feb. 8, 1978. Washington, D.C., U.S. Department of Agriculture, 1978.

[3] According to Calvin Beale, leader of the Population Studies Program, U.S. Department of Agriculture, retirement counties are the 360 nonmetropolitan counties with 10 percent or more net inmigration during the 1960–70 decade for white persons who were 60 years of age and over in 1970.

Table 1. Total, resident, and civilian populations and average annual rate of change: United States, selected years 1950–78

(Data are based on decennial census updated by data from multiple sources)

Year	Total population including Armed Forces overseas	Resident population	Civilian population	
			Total	Non-institutionalized
	Number in thousands			
1950[1]	151,684	151,235	150,203	148,630
1955[1]	165,275	164,308	162,311	160,588
1960	180,671	179,979	178,140	176,246
1965	194,303	193,526	191,605	189,575
1970	204,878	203,810	201,722	199,589
1971	207,053	206,219	204,258	202,103
1972	208,846	208,234	206,461	204,287
1973	210,410	209,859	208,102	205,912
1974	211,901	211,389	209,683	207,477
1975	213,559	213,051	211,373	209,150
1976	215,142	214,669	213,000	210,760
1977	216,817	216,332	214,685	212,428
1978	217,739	217,257	215,620	213,354
	Average annual rate of change			
1950–55	1.73	1.67	1.56	1.56
1955–60	1.80	1.84	1.88	1.88
1960–65	1.47	1.46	1.47	1.47
1965–70	1.07	1.04	1.03	1.03
1970–71	1.06	1.18	1.26	1.26
1971–72	0.87	0.98	1.08	1.08
1972–73	0.75	0.78	0.79	0.80
1973–74	0.71	0.73	0.76	0.76
1974–75	0.78	0.79	0.81	0.81
1975–76	0.74	0.76	0.77	0.77
1976–77	0.78	0.77	0.79	0.79
1977–78	0.85	0.86	0.87	0.87

[1] Data exclude Alaska and Hawaii.

NOTE: Estimates are as of July 1, except for 1978 which is as of Jan. 1.

SOURCES: U.S. Bureau of the Census: Population estimates and projections, *Current Population Reports.* Series P–25, Nos. 706 and 720. Washington. U.S. Government Printing Office, Sept. 1977 and Mar. 1978; National Center for Health Statistics: Data computed by the Division of Analysis from data compiled by the Bureau of the Census.

Table 2. Components of population change, according to race: United States, selected years 1910–77

(Data are based on the national vital registration system)

Year	Birth rate[1]				Death rate[2]				Rate of natural increase[3]				Net civilian immigration rate[4]			
	All races	White	All other		All races	White	All other		All races	White	All other		All races	White	All other	
			Total	Black			Total	Black			Total	Black			Total	Black
	Number per 1,000 resident population															
1910	30.1	29.2	---	---	14.7	14.5	21.7	---	15.4	14.7	---	---	---	---	---	---
1920	27.7	26.9	35.0	---	13.0	12.6	17.7	---	14.7	14.3	17.3	---	---	---	---	---
1930	21.3	20.6	27.5	---	11.3	10.8	16.3	16.4	10.0	9.8	11.2	---	---	---	---	---
1940	19.4	18.6	26.7	---	10.8	10.4	13.8	13.9	8.6	8.2	12.9	---	0.6	---	---	---
1950	24.1	23.0	33.3	---	9.6	9.5	11.2	11.3	14.5	13.5	22.1	---	2.0	---	---	---
1955	25.0	23.8	34.7	---	9.3	9.2	10.0	---	15.7	14.6	24.7	---	2.0	---	---	---
1960	23.7	22.7	32.1	31.9	9.5	9 5	10.1	10.4	14.2	13.2	22.0	21.5	1.8	1.9	1.2	0.6
1965	19.4	18.3	27.6	27.5	9.4	9 4	9.6	10.1	10.0	8.9	18.0	17.4	1.9	2.0	1.7	1.0
1970	18.4	17.4	25.1	25.3	9.5	9.5	9.4	10.0	8 9	7.9	15.7	15.3	2.1	1.8	4.7	1.7
1971	17.2	16.2	24.7	24.5	9.3	9.4	9.2	9.7	7.9	6.8	15.5	14.8	1.9	1.4	5.1	1.8
1972	15.6	14.6	22.9	22.6	9.4	9.5	9.2	9.7	6.2	5.1	13.7	12.9	1.6	1.1	4.8	1.5
1973	14.9	13.9	21.9	21.5	9.4	9.4	9.1	9 7	5.5	4.5	12.8	11.8	1.6	1.1	5.1	1.6
1974	14.9	14.0	21.4	21.0	9.2	9.2	8.7	9.2	5 7	4.8	12 7	11.8	1.5	1.0	5 2	1.6
1975	14.8	13.8	21.2	20.9	8.9	9.0	8.3	8.9	5.9	4.8	12 9	12.0	2.1	0.9	9.9	1.6
1976	14.8	13.8	21.1	20.8	8.9	9.0	8.2	8.9	5.9	4.8	12 9	11 9	1.5	1 0	5.2	1.5
1977[5]	15.3	---	---	---	8.8	---	---	---	6.5	---	---	---	1.4	---	---	---

[1] The 1920 and 1930 birth rates include adjustments for States not in the registration area; the 1910 figures are estimates based on the number of registered births in the 10 original registration States in 1910. Birth rates for 1960, 1965, 1970, and 1971 are based on a 50-percent sample of births; for 1972–76 they are based on 100 percent of births in selected States and on a 50-percent sample of births in all other States.

[2] Death rates for 1972 are based on a 50-percent sample of deaths.

[3] Difference between birth and death rates.

[4] Excludes net movement of Armed Forces from overseas posts from denominator of the rate

[5] Provisional data.

NOTE: Beginning 1970, births and deaths to nonresidents of the United States are excluded.

SOURCES: National Office of Vital Statistics: Births and birth rates in the entire United States, 1909 to 1948, by P. K. Whelpton, *Vital Statistics—Special Reports,* Vol. 33, No. 8, Public Health Service, Washington, D.C., Sept. 1950; National Center for Health Statistics: *Vital Statistics of the United States, 1976,* Vols. I and II. Public Health Service, DHEW, Hyattsville, Md. To be published; Births, deaths, marriages, and divorces for 1977. *Monthly Vital Statistics Report.* Vol. 26–No. 12. DHEW Pub. No. (PHS) 78–1120. Public Health Service. Hyattsville, Md., Mar. 13, 1978; Data computed by the Division of Analysis from data compiled by the Division of Vital Statistics and the U.S. Bureau of the Census.

Table 3. Dependency ratios: Selected countries, selected years 1970–76

(Data are based on population censuses and estimated counts)

Country	Dependency ratios for 1971[1]			Dependency ratios for 1976[5]		
	Total[2]	Child[3]	Aged[4]	Total[2]	Child[3]	Aged[4]
Canada	60.4	47.5	13.0	53.5	40.5	13.0
United States	60.9	44.9	16.0	54.2	37.7	16.5
Mexico	99.7	92.3	7.4	98.8	92.1	6.8
Sweden	53.8	32.0	21.9	56.2	32.2	24.0
England and Wales	58.9	37.7	21.2	58.8	36.0	22.8
Netherlands	59.5	43.1	16.4	55.5	38.5	17.0
German Democratic Republic	63.5	38.0	25.5	59.6	33.7	26.0
German Federal Republic	57.3	36.2	21.1	56.1	33.5	22.6
France	59.5	38.0	21.5	59.2	37.3	21.9
Switzerland	54.5	36.6	17.8	53.5	34.0	19.6
Italy	53.9	37.5	16.4	56.6	38.1	18.5
Israel[6]	60.1	48.0	12.1	62.2	48.4	13.8
Japan	46.1	35.3	10.7	47.5	35.8	11.7
Australia	59.0	45.8	13.3	56.1	42.2	13.9

[1] Data for Mexico refer to 1970, and data for Sweden, Israel, and Japan refer to 1972.
[2] Number of persons under 15 years of age and 65 years of age and over per 100 persons 15–64 years of age.
[3] Number of persons under 15 years of age per 100 persons 15–64 years of age.
[4] Number of persons 65 years of age and over per 100 persons 15–64 years of age.
[5] Data for France and Italy refer to 1974, and data for Canada, Japan, and Israel refer to 1975.
[6] Jewish population only.

NOTE: Countries are grouped by continent.

SOURCES: United Nations: *Demographic Yearbook 1973 and 1976.* Pub. Nos. ST/STAT/SER.R/2 and ST/ESA/STAT/SER.J/4. New York. United Nations, 1974 and 1977; World Health Organization: *World Health Statistics, 1977,* Vol. 1. Geneva. World Health Organization, 1977; World Health Organization: Selected data; U.S. Bureau of the Census: Popuiation estimates and projections, *Current Population Reports.* Series P–25, Nos. 614 and 643. Washington. U.S. Government Printing Office, Dec. 1975 and Jan. 1977.

Table 4. Resident population, according to geographic region and location: United States, 1976

(Data are based on decennial census updated by data from multiple sources)

Location	Geographic region				
	All regions	Northeast	North Central	South	West
	Population in thousands				
United States	214,666	49,503	57,738	68,864	38,562
Within SMSA	155,741	42,370	39,516	43,467	30,389
Large SMSA	87,140	27,222	23,782	16,167	19,970
Core counties	59,699	17,274	15,606	10,036	16,783
Fringe counties	27,441	9,948	8,176	6,130	3,187
Medium SMSA	49,710	13,280	10,191	18,531	7,708
Other SMSA	18,891	1,867	5,543	8,769	2,712
Outside SMSA	58,543	7,133	18,222	25,397	7,791
Adjacent to SMSA	30,392	5,249	9,178	12,740	3,226
Urbanized	13,807	4,007	3,927	3,794	2,079
Less urbanized	14,098	1,151	4,621	7,355	972
Thinly populated	2,487	91	630	1,591	175
Not adjacent to SMSA	28,151	1,885	9,045	12,657	4,565
Urbanized	8,951	859	2,250	3,972	1,870
Less urbanized	14,544	874	5,046	6,543	2,082
Thinly populated	4,655	152	1,749	2,142	613

NOTES. The locations of counties are grouped according to the April 1973 Office of Management and Budget metropolitan-nonmetropolitan designations. The populations used were the provisional estimates by county for July 1, 1976. Alaska is excluded from the location categories. However, the Alaska State total is included in the West total and the United States total.

SOURCE. National Center for Health Statistics: Computed by the Division of Analysis from data compiled by the U.S. Bureau of the Census, Federal-State Cooperative Program for Population Estimates. *Current Population Reports.* Series P–26, No. 76–1 through No. 76–50. Washington. U.S. Government Printing Office, 1977–78.

Table 5. Population and projections and percent change from 1970 population under different assumptions of completed fertility: United States, selected years 1977–2000

(Data are based on decennial census updated by data from multiple sources)

Year	Assumption of average number of lifetime births per woman		
	Series I (2.7 births)	Series II (2.1 births)	Series III (1.7 births)
	Population in thousands		
1977	...	216,745	...
1980	224,066	222,159	220,732
1985	238,878	232,880	228,879
1990	254,715	243,513	236,264
1995	269,384	252,750	241,973
2000	282,387	260,378	245,876
	Percent change from 1970 population[1]		
1977	...	5.8	...
1980	9.4	8.4	7.7
1985	16.6	13.7	11.7
1990	24.3	18.9	15.3
1995	31.5	23.4	18.1
2000	37.8	27.1	20.0

[1] Estimated total population, including Armed Forces abroad, for July 1, 1970 = 204,878,000.

NOTE: Projected populations are based on U.S. Bureau of the Census fertility assumption of 2.1 lifetime births per woman with continuation of mortality rates at current levels. Figures are for the total population, including Armed Forces abroad, as of July 1.

SOURCES: U.S. Bureau of the Census: Population estimates and projections. *Current Population Reports.* Series P–25, No. 704. Washington. U.S. Government Printing Office, July 1977.

Table 6. Population and average annual rate of change: Selected countries, selected years 1970–76

(Data are based on national population censuses and estimated counts)

Country	Latest census		1976 mid-year population estimate in thousands	Average annual rate of change[1] (latest census to 1976)
	Year	Population in thousands		
Canada	1971	21,568	23,143	1.4
United States	1970	204,335	215,118	0.8
Mexico	1970	48,225	62,329	4.1
Sweden	1975	8,209	8,222	0.1
England and Wales	1971	48,750	49,184	0.2
Netherlands	1971	13,046	13,770	1.0
German Democratic Republic	1971	17,068	16,786	−0.3
German Federal Republic	1970	60,651	61,498	0.2
France	1975	52,544	52,915	0.5
Switzerland	1970	6,270	6,346	0.2
Italy	1971	53,745	56,189	1.0
Israel	1972	3,148	3,465	2.4
Japan	1975	111,934	112,768	1.0
Australia	1971	12,756	13,643	1.4

[1] If census was taken after the 15th of the month, the next month was used in calculating the time interval for the average annual rate of change.

NOTES: International population census data are of varying reliability dependent upon the completeness of enumeration. Population estimates are subject to continued correction and revision; their reliability depends on the number of years elapsed since a census was established, completeness of birth and death registration, and international migration data. Countries are grouped by continent.

SOURCE: United Nations: *Demographic Yearbook 1976.* Pub. No. ST/ESA/STAT/SER.R/4. New York. United Nations, 1977; United Nations: Selected data.

Table 7. Resident population, according to race, sex, and age: United States, July 1, 1976

(Data are based on decennial census updated by data from multiple sources)

Age	All races			White			All other					
							Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Population in thousands											
All ages	214,649	104,472	110,177	186,225	90,909	95,315	28,424	13,563	14 862	24,763	11,787	12,976
Under 5 years	15,339	7,839	7,500	12,653	6,482	6,171	2,686	1,358	1,328	2,317	1,171	1,146
Under 1 year	3,026	1,550	1,476	2,519	1,293	1,226	507	258	249	436	221	215
1 year	3,066	1,556	1,500	2,534	1,297	1,237	532	269	263	456	230	226
2 years	2,938	1,504	1,434	2,415	1,239	1,176	524	265	259	449	227	222
3 years	3,039	1,552	1,488	2,492	1,275	1,217	547	276	271	473	239	234
4 years	3,270	1,668	1,602	2,693	1,378	1,315	576	290	286	503	253	249
5–9 years	17,349	8,848	8,501	14,460	7,397	7,063	2,889	1,451	1,438	2,536	1,273	1,263
5 years	3,568	1,826	1,742	2,956	1,517	1,439	612	309	303	532	268	264
6 years	3,512	1,787	1,724	2,926	1,494	1,432	585	293	292	512	256	256
7 years	3,440	1,752	1,687	2,864	1,465	1,400	575	288	287	506	253	253
8 years	3,353	1,710	1,643	2,803	1,434	1,369	550	276	274	485	243	241
9 years	3,477	1,772	1,705	2,910	1,487	1,423	567	285	282	501	252	249
10-14 years	19,819	10,106	9,713	16,612	8,491	8,121	3,207	1,615	1,592	2,864	1,441	1,423
10 years	3,721	1,899	1,822	3,085	1,579	1,506	636	320	316	562	283	279
11 years	3,808	1,940	1,868	3,187	1,628	1,560	621	312	309	553	278	275
12 years	4,005	2,046	1,959	3,364	1,723	1,641	641	324	318	574	289	285
13 years	4,071	2,074	1,997	3,428	1,750	1,678	643	323	320	577	290	287
14 years	4,213	2,147	2,066	3,547	1,811	1,736	666	335	330	598	301	297
15-19 years	21,165	10,722	10,443	17,934	9,107	8,827	3,231	1,615	1,616	2,868	1,431	1,438
15 years	4,286	2,187	2,099	3,618	1,850	1,768	668	337	331	596	300	296
16 years	4,184	2,132	2,053	3,534	1,805	1,729	651	327	323	582	292	289
17 years	4,212	2,140	2,072	3,556	1,810	1,746	656	330	326	584	293	291
18 years	4,237	2,135	2,102	3,607	1,822	1,785	630	314	316	557	277	281
19 years	4,246	2,128	2,118	3,619	1,820	1,799	626	307	319	550	268	281
20-24 years	19,440	9,705	9,735	16,690	8,390	8,300	2,750	1,315	1,435	2,383	1,135	1,248
20 years	4,156	2,087	2,070	3,540	1,784	1,756	616	303	314	542	264	278
21 years	3,983	2,003	1,980	3,412	1,725	1,686	572	278	294	500	241	259
22 years	3,852	1,920	1,932	3,308	1,661	1,647	544	258	286	473	224	249
23 years	3,709	1,840	1,869	3,197	1,600	1,598	512	241	271	439	206	232
24 years	3,739	1,855	1,884	3,233	1,620	1,613	506	235	271	430	200	230

25-29 years	17,710	8,776	8,934	15,437	7,729	7,708	2,272	1,047	1,225	1,911	885	1,025
30-34 years	14,181	6,989	7,192	12,373	6,161	6,212	1,809	828	981	1,498	683	815
35-39 years	11,872	5,775	6,097	10,366	5,098	5,267	1,507	677	830	1,295	582	713
40-44 years	11,140	5,432	5,708	9,735	4,795	4,940	1,405	637	769	1,203	546	657
45-49 years	11,656	5,672	5,983	10,298	5,042	5,256	1,357	630	727	1,166	544	622
50-54 years	11,980	5,758	6,222	10,704	5,165	5,539	1,275	593	683	1,114	517	597
55-59 years	10,754	5,132	5,622	9,703	4,643	5,060	1,051	489	562	937	434	503
60-64 years	9,310	4,355	4,956	8,431	3,952	4,478	880	402	477	794	358	436
65-69 years	8,281	3,662	4,619	7,408	3,279	4,129	873	383	490	806	346	461
70-74 years	5,913	2,505	3,408	5,427	2,284	3,143	486	221	265	425	189	236
75-79 years	4,051	1,586	2,465	3,720	1,442	2,278	331	144	187	280	119	161
80-84 years	2,724	982	1,742	2,497	892	1,605	227	90	137	200	78	122
85 years and over	1,966	629	1,337	1,777	561	1,216	189	68	121	165	56	109
1-4 years	12,313	6,289	6,024	10,134	5,189	4,945	2,179	1,100	1,079	1,881	949	931
5-13 years	32,955	16,807	16,148	27,525	14,077	13,448	5,430	2,730	2,700	4,801	2,412	2,389
14-17 years	16,896	8,606	8,290	14,255	7,276	6,979	2,640	1,330	1,311	2,359	1,186	1,173
18-24 years	27,922	13,968	13,954	23,916	12,032	11,884	4,006	1,935	2,070	3,490	1,680	1,810
18-21 years	16,622	8,353	8,269	14,178	7,151	7,027	2,444	1,202	1,243	2,149	1,050	1,099
22-24 years	11,300	5,615	5,685	9,738	4,881	4,857	1,562	734	828	1,342	630	711
15-44 years	95,508	47,399	48,109	82,534	41,280	41,254	12,974	6,119	6,855	11,159	5,263	5,897
14 years and over	166,355	79,826	86,529	146,047	70,351	75,696	20,308	9,475	10,833	17,645	8,204	9,441
16 years and over	157,855	75,492	82,364	138,881	66,689	72,192	18,974	8,802	10,172	16,451	7,603	8,848
18 years and over	149,459	71,220	78,239	131,791	63,075	68,717	17,668	8,145	9,523	15,286	7,018	8,268
21 years and over	136,821	64,871	71,950	121,025	57,649	63,376	15,795	7,222	8,574	13,637	6,209	7,428
62 years and over	28,402	11,902	16,500	25,770	10,756	15,014	2,632	1,146	1,486	2,354	1,001	1,353
65 years and over	22,934	9,364	13,571	20,829	8,457	12,372	2,105	906	1,199	1,876	787	1,089
	Age in years											
Median age of population	29.0	27.9	30.2	29.8	28.6	31.2	24.0	22.8	25.1	23.8	22.6	24.9

SOURCE: U.S. Bureau of the Census: Population estimates and projections, *Current Population Reports.* Series P–25, No. 643. Washington. U.S. Government Printing Office, Jan. 1977.

Table 8. Population, dependency ratios, and projections under Series II fertility assumption (2.1 births per woman) and percent change from 1970 population, according to age: United States, selected years 1970–2000

(Data are based on decennial census updated by data from multiple sources)

Age and dependency ratios	Year											
	1970	1976	1980	1985	1990	1995	2000	1980	1985	1990	1995	2000
	Population in thousands		Projected population in thousands					Percent change from 1970 population				
All ages	204,878	215,118	222,159	232,880	243,513	252,750	260,378	8.4	13.7	18.9	23.4	27.1
Under 5 years	17,148	15,339	16,020	18,803	19,437	18,775	17,852	−6.6	9 7	13.3	9.5	4 1
5-9 years	19,898	17,349	16,096	16,259	19,040	19,666	19,000	−19 1	−18 3	−4.3	−1.2	−4.5
10-14 years	20,835	19,819	17,800	16,567	16,718	19,527	20,153	−14 6	−20 5	−19.8	−6.3	−3.3
15-19 years	19,315	21,220	20,609	18,007	16,777	16,919	19,727	6.7	−6 8	−13.1	−12.4	2.1
20-24 years	17,184	19,630	20,918	20 510	17,953	16,728	16,898	21.7	19 4	4.5	2.7	−1.7
25-29 years	13,718	17,806	18,930	20,581	20,169	17,665	16,469	38 0	50 0	47 0	28 8	20 1
30-34 years	11,576	14,238	17,242	19,278	20,917	20,489	17,981	48 9	66.5	80.7	77.0	55 3
35-39 years	11,151	11,916	14,033	17,274	19,261	20,874	20,435	25 8	54.9	72 7	87 2	83 3
40-44 years	11,991	11,160	11,688	14,102	17,331	19,304	20,909	- 2 5	17 6	44.5	61.0	74.4
45-49 years	12,147	11,662	11,030	11,526	13,889	17,052	18,990	−9.2	5 1	14.3	40.4	56.3
50-54 years	11,163	11,981	11,668	10,931	11,422	13,758	16,885	4 5	2 1	2 3	23.2	51 3
55-59 years	9,998	10,754	11,401	11,122	10,416	10,885	13,106	14 0	11 2	4 2	8 9	31.1
60-64 years	8,666	9,310	9,797	10,615	10,360	9,707	10,151	13 1	22.5	19.5	12.0	17.1
65-69 years	7,023	8,281	8,700	9,244	10,022	9,791	9,192	23 9	31 6	42.7	39 4	30.9
70-74 years	5,465	5,913	6,793	7,301	7,782	8,433	8,244	24 3	33.6	42.4	54 3	50 9
75-79 years	3,859	4,051	4,324	5,108	5,501	5,885	6,394	12 0	32.4	42 5	52 5	65.7
80-84 years	2,309	2,724	2,816	3,064	3,639	3,939	4,236	22 0	32 7	57 6	70 6	83.5
85 years and over	1,432	1,966	2,294	2,588	2,881	3,352	3,756	60 2	80 7	101 2	134 1	162.3
	Number per 100 population		Number per 100 projected population					Percent change from 1970 ratio				
Dependency ratio[1]	78 0	69 4	64 3	62 5	63 5	65 2	63 2	−17 6	−19 9	−18.6	−16.4	−19.0
Child dependency ratio[2]	60.6	51 3	45 8	43 5	43.5	44 7	43 2	−24.4	−28 2	−28.2	−26.2	−28.7
Aged dependency ratio[3]	17 5	18 1	18 4	19 1	20.0	20.5	19.9	5 1	9 1	14 3	17.1	13 7

[1] Population under 18 years of age and 65 years of age and over per 100 population 18–64 years of age

[2] Population under 18 years of age per 100 population 18–64 years of age

[3] Population 65 years of age and over per 100 population 18–64 years of age.

NOTE: Projected populations are based on U S Bureau of the Census Series II fertility assumption of an average 2.1 lifetime births per woman with continuation of mortality rates at current levels. Figures are for the total population, including Armed Forces abroad, as of July 1

SOURCES: U.S. Bureau of the Census: Population estimates and projections. *Current Population Reports.* Series P–25, Nos. 614 and 704. Washington. U.S Government Printing Office, Dec. 1975 and July 1977

Table 9. Selected demographic measures related to children and young adults, according to race: United States, selected years 1940–76

(Data are based on decennial censuses updated by data from multiple sources, on samples of the civilian noninstitutionalized population, and on the national vital registration system)

Race and year	Total population under 18 years in thousands	Selected demographic measure							
		Child dependency ratio[1]	Children involved in divorce per 1,000 children[2]	Children born to unmarried women per 1,000 births	Children ever born per 1,000 ever-married women 15–44 years	Percent of children in school, aged—			Percent of persons 18–24 years who are high school graduates
						5–6 years	7–13 years	14–17 years	
All races									
1940	40,359	48.8	---	37.9	1,859	[3] 43.0	[3] 95.0	[3] 79.3	42.2
1950	47,278	51.1	6.3	39.8	1,859	74.4	98.7	83.4	50.4
1955	55,739	58.3	6.3	45.3	[4] 2,037	78.1	99.2	86.9	---
1960	64,525	64.9	7.2	52.7	2,314	80.7	99.5	90.3	59.9
1965	69,731	65.7	8.9	77.4	2,477	84.4	99.4	93.2	68.5
1970	69,694	60.6	12.5	106.9	2,357	89.5	99.2	94.1	78.9
1975	66,295	53.1	16.9	142.5	2,140	94.7	99.3	93.6	80.8
1976	65,191	51.3	17.1	147.8	2,082	95.5	99.2	93.7	80.5
White									
1940	35,459	47.5	---	19.5	---	[3] 44.0	[3] 95.5	[3] 80.7	45.6
1950	41,289	49.6	---	17.5	1,828	89.0		84.4	---
1955	48,479	56.5	---	18.6	---	79.2	99.3	87.5	---
1960	55,745	62.7	---	22.9	2,253	82.0	99.6	90.8	[5] 37.4
1965	59,721	63.2	---	39.6	2,398	85.3	99.4	93.4	71.3
1970	59,192	58.1	---	56.6	2,281	90.3	99.2	94.5	81.4
1975	55,510	50.6	---	73.0	2,069	94.8	99.3	93.8	83.2
1976	54,434	48.9	---	76.8	2,017	95.8	99.2	93.6	82.4
All other									
1940	4,898	61.2	---	168.3	---	[3] 36.6	[3] 91.2	[3] 68.2	16.2
1950	5,989	63.9	---	179.6	2,089	86.8		75.5	---
1955	7,259	73.1	---	202.4	---	71.1	98.1	82.9	---
1960	8,780	82.8	---	215.8	2,788	73.3	99.1	86.8	[5] 22.9
1965	10,010	86.5	---	263.2	3,085	79.3	99.2	91.7	48.0
1970	10,502	79.8	---	349.3	2,908	85.4	99.4	92.1	61.4
1975	10,785	70.8	---	441.7	2,652	94.4	99.1	92.6	66.3
1976	10,757	68.7	---	451.5	2,552	94.2	99.1	94.1	69.3
Black:									
1970	9,531	81.5	---	375.8	2,974	84.9	99.3	91.9	59.5
1975	9,554	72.5	---	487.9	2,774	94.4	99.2	92.2	64.8
1976	9,478	70.3	---	503.0	2,676	94.0	99.0	95.3	67.5

[1] The ratio of the population under 18 years of age to the population 18–64 years of age per 100 persons.

[2] Children under 18 years of age. For 1960–76, estimated from frequencies based on sample data from selected States; for earlier years, estimated from total counts.

[3] 1940 school enrollment data run lower than other years. They are April estimates while the other years are October estimates, and some dropout occurs between October and April.

[4] April 1954 data.

[5] Percent of the population 14-24 years of age. The corresponding percent for all races in 1960 was 35.6.

SOURCES: U.S. Bureau of the Census: *Current Population Reports.* Series P–20 and P–25, selected reports. Washington. U.S. Government Printing Office, selected years 1961–78; National Center for Health Statistics: Children of divorced couples, United States, selected years, by A. A. Plateris. *Vital and Health Statistics.* Series 21-No. 18. DHEW Pub. No. (PHS) 1000. Public Health Service. Washington. U.S. Government Printing Office, Feb. 1970; *Vital Statistics of the United States, 1973,* Vols. I and III. DHEW Pub. Nos. (HRA) 77–1113 and (HRA) 77–1103. Health Resources Administration. Washington. U.S. Government Printing Office, 1977; Advance report, final natality statistics, 1975. *Monthly Vital Statistics Report,* Vol. 25–No. 10, supplement. DHEW Pub. No. (HRA) 77–1120. Health Resources Administration, Rockville, Md., Dec. 30, 1976; Unpublished data from the Division of Vital Statistics.

B. Fertility

During 1976, 3,167,788 live births were registered in the United States. This figure is slightly more than in any year since 1972, but still 1.1 million less than in 1961. The preliminary 1977 data indicate that the number of births increased to 3.3 million or by 5 percent since 1976.

The crude birth rate in 1976 was 14.8 live births per 1,000 population, the same as the rate in 1975 and the lowest ever recorded in the United States. The provisional birth rate for 1977 is 15.3. The crude birth rate has been decreasing since the late 1950's. During the 1957–76 period, the birth rate dropped by 42 percent.

For the first time since the mid-1950's, the birth rate for women 30–34 years of age increased slightly, from 53.1 in 1975 to 54.5 births per 1,000 women 30–34 years of age in 1976. The increased rate may reflect the recent phenomenon of delayed childbearing. This phenomenon may also be reflected in the rate for women 25–29 years of age, which in 1960 was 24 percent lower than the rate for women 20–24 years of age but in 1976 was only 3 percent lower. The birth rate is still highest for woman 20–24 years of age. While the birth rate for young teenagers 15–17 years of age has been decreasing, the rate of decline has been slower than that for older teenagers, 18–19 years of age.

The total fertility rate, a hypothetical lifetime measure of average completed family size based on the age-specific birth rates in one year, continued to decrease from 3.7 in 1957 to 1.8 births per woman in 1976. This measure of fertility assumes that a set of age-specific birth rates observed during a single year will apply throughout a woman's reproductive span. It is affected by changes in the age distribution (or timing) of childbearing.

The first-order birth rates among women 25–29 and 30–34 years of age increased from 1972 through 1976. The first through third-order birth rates for women 30–34 and 35–39 years of age also increased from 1975 to 1976. These increases at the relatively later childbearing years reflect changes in the timing of births rather than changes in actual completed fertility. Therefore, the total fertility rate in recent years has probably understated the actual number of children women will have during their reproductive years. Assuming that women are simply postponing childbearing, there is reason to believe that the unprecedented low total fertility rate in 1976 will soon begin to increase.

Cohort or completed fertility, on the other hand, follows the childbearing of a group of women (identified by their year of birth) through their reproductive years. Cohort fertility rates are free of the effects of changing age distribution of childbearing and thus are a "true" picture of the number of children women bear during their reproductive years. Women born in 1927, the last cohort for which completed fertility rates are available, completed their fertility with about 3.0 births per woman. Women born in 1947 were about 30 years of age in 1977 and had already had an average of 1.7 births per woman. Since women born in 1927 had an average of 2.2 children by 30 years of age, it appears likely that women born in 1947 will complete their fertility with about two children.

Based on the responses to questions asked about birth expectations, young women belonging to the more recent cohorts of the late 1950's expect to complete their families with about two children. With increased use of effective methods of birth control, the number of expected births per woman is a good indicator of fertility patterns.

Since World War II, fertility trends in different regions of the world have followed a variety of patterns, but all have eventually decreased.[1] The post-World War II baby boom experienced in the United States was also experienced in other countries, including Australia and Canada. In Western Europe, however, the pattern has been different. There was only a temporary rise in the total fertility rate immediately after the war. This was followed by a short period of decline, a

NOTE: Unless otherwise noted, data are from the ongoing data-collection systems of the National Center for Health Statistics. In many instances the data have been published in the *Vital and Health Statistics* series.

[1] Westoff, C.F.: The population of the developed countries. *Scientific American.* 231(3): 109–120, Sept. 1974.

gradual increase, and finally a sustained decrease continuing to the present time. The Central European countries, such as Switzerland, the German Democratic Republic, and the German Federal Republic, did not have a post-war baby boom, but since 1955 they have followed the fertility levels of Western Europe. In Israel, fertility rates among the Jewish population are slowly declining after reaching a peak around 1950. However, in Japan, with the introduction of permissive abortion legislation, rising educational levels, and rapid industrialization, fertility rates have plummeted since 1945.

The general fertility rate in the United States in 1975 was 59.1 births per 1,000 females 15–49 years of age,[2] a rate that was higher than in other selected industrialized countries—Sweden, England and Wales, the Netherlands, the German Democratic Republic, the German Federal Republic, and Switzerland.

In examining teenage fertility for 1976, nearly one-fifth of all infants were born to young women under 20 years of age. About two-fifths of these infants were born to teenagers under 18 years of age. Between 1966 and 1973, the number of births to these young women increased from 195,000 to 251,000 or by 29 percent. Since 1973, however, the number has dropped to 227,000 births.

Teenage birth rates have not followed the same pattern of decline as birth rates of older women. While most age-specific rates have been decreasing fairly regularly since 1957, the birth rates for adolescents did not begin to decline until later. Between 1966 and 1972, the teenage birth rate increased from 35.7 to 39.2 births per 1,000 young women 15–17 years of age, but by 1976 the rate had decreased to 34.6. The birth rate for older teenagers 18–19 years of age has followed the pattern of young women in their early 20's and has been decreasing since 1966.

In 1976, about 40 percent of the young mothers 15–19 years of age were not married when their babies were born. Both the number and rate of out-of-wedlock births among teenagers 15–19 years of age increased between 1966 and 1975, although between 1975 and 1976 the rate among the younger group 15–17 years of age decreased for the first time in 11 years. In 1976, about 36 percent of the births to white teenagers and nearly 90 percent of the births to black teenagers 15–17 years of age were out-of-wedlock. Furthermore, 1976 was the first year that out-of-wedlock black births exceeded 50 percent of all black births.

Differences in the fertility patterns of young white and black women narrowed between 1966 and 1976, primarily because the birth rate for black teenagers 15–17 years of age decreased from 1972 to 1976 twice as rapidly as the rate for white teenagers of the same age during the same period.

In 1976, the birth rates for unmarried black teenagers 15–17 and 18–19 years of age were more than 7 times greater than the rates for unmarried white teenagers in the same age groups—74.6 versus 9.9 births per 1,000 unmarried women and 121.6 versus 17.0, respectively. However, the rates for black teenagers 15–17 years of age have been decreasing since 1972, while the rates for white teenagers have been increasing.

The birth rate for teenagers in 1975 was much higher in the United States (56.3 births to young women 15–19 years of age per 1,000 young women 15–19 years of age) than in all selected industrialized countries except the German Democratic Republic. In 1974, the birth rate for teenagers in Canada (34.7) was much lower than the U.S. rate in 1975. One of the lowest birth rates for this age group in 1975 was in Japan (4.1).

The social and economic consequences of early childbearing in the United States have been analyzed with the use of data from a national longitudinal study of young women 14–24 years of age.[3] One of the most important findings of the study was that the age of a young woman at the birth of her first child had an important impact on the future of the young woman's educational attainment, es-

[2] Calculated this way for international comparisons. The National Center for Health Statistics calculates the general fertility rates for females 15–44 years of age.

[3] Moore, K.: Testimony on the Economic Consequences of Teenage Childbearing. U.S. House of Representatives, Select Committee on Population, Feb. 28, 1978. Washington, D.C. The Urban Institute, 1978.

pecially if she was still in high school at the time of the birth. The results indicated that for each year a high school student could postpone her first birth she could expect to complete almost an additional year of schooling. Educational loss was found to be greater for young white mothers than for young black mothers.

Through its direct effect on educational attainment, age at first birth is indirectly related to family income and poverty. Consequently, women who have their first child as teenagers have a greater risk of poverty and welfare dependency. Nearly half of government expenditures through the Aid to Families with Dependent Children (AFDC) program is for households containing women who had their first child while they were teenagers. More than three-fifths of the women in the households receiving AFDC had their first child while they were teenagers. Thus, the economic consequences of teenage childbearing are great, both for the individuals concerned and for society.

Two considerations that have an impact not only on teenage birth rates but also on fertility rates in general are the use of contraception and abortion. Changes in contraceptive technology, availability, and utilization have made it easier for women to prevent conception and to plan the timing and spacing of births. Also, with the increased availability of abortion, women have the option to reduce the likelihood of high risk, unplanned, or unwanted births. Data from the National Survey of Family Growth show that from 1973 to 1976 there was a small decrease from 13.1 to 12.0 percent in unwanted births.[4] For both years, the percent of unwanted births was 2.7 times greater among black mothers than among white mothers.

In 1976, 68 percent of currently married women 15–44 years of age used some method of contraception, and nearly 48 percent used one of the most effective methods—oral contraception (the birth control pill), the intrauterine device (IUD), or sterilization. Apart from sterilization (which had no failures recorded), the pill and the IUD had the "best records" of effectiveness. The failure rate per 100 women in the first year of use was 2.0 failures for the pill and 4.2 failures for the IUD. The birth control pill is still the most popular method of contraception, and it was used by 22.4 percent of currently married women 15–44 years of age. In light of recent controversies over health hazards associated with oral contraceptives, however, it is not surprising that the increase in pill use observed from the 1960's through 1973 has come to a halt. IUD use remained relatively constant between 1973 and 1976 at 6 to 7 percent.

Estimates of the use of contraception among never-married young women 15–19 years of age are available for 1971 and 1976.[5] In 1976, 35 percent of the unmarried teenagers 15–19 years of age had had sexual intercourse compared with 27 percent in 1971. According to the 1976 data, 30 percent of the sexually-active unmarried women said that they had always used contraception compared with 18 percent in 1971. Use of less reliable contraceptive methods (i.e., condom, douche, withdrawal, and other methods) by teenagers 15–19 years of age decreased by about one-third (from 75 percent to 49 percent) during the 5-year period, while use of the pill and the IUD doubled and reached 51 percent.[6]

Similar to variations in birth rates between younger and older teenagers, use of reliable contraceptive methods varies by age within the teenage years. The use of medically effective contraception has been more prevalent among women 18–19 years of age than among the younger teenagers 15–17 years of age, although the relative difference between the two age groups has narrowed since 1971. In 1976, 61 percent of the younger teenagers used the less reliable methods and 39 percent used the pill or IUD, while only 37 percent of those 18–19 years of age used the less reliable methods and nearly 63 percent used the pill or IUD.

About 1.2 million abortions were reported in 1976, almost 60 percent more than in

[4] Defined in relation to the pregnancy. Multiple births such as twins and triplets are counted only once.

[5] Zelnick, M. and Kantner, J. F.: Sexual and contraceptive experience of young unmarried women in the United States, 1971 and 1976. *Family Planning Perspectives.* 9(2): 55–71, Mar./Apr. 1977.

[6] Measured by method used most recently.

1973. Since the 1973 Supreme Court "abortion" decision, the number of States in which abortions are performed legally has increased markedly. While New York and California provided half of all reported abortions in 1973, they provided just under a third in 1976. In 1973, none or very few abortions were reported in Louisiana, Mississippi, North Dakota, Utah, and West Virginia, but by 1976, nearly every State reported at least 1,000 abortions. Only 10 percent of abortions were performed on out-of-State residents in 1976 compared with 25 percent in 1973.

Based on composite figures for 1976, almost 379,000 abortions were obtained by teenagers under 20 years of age, about 1.6 times as many as in 1973. Even though the number of abortions among teenagers has increased, the figures have remained fairly constant as a proportion of all abortions (about one-third).

There are no available data on the issue of abortion as a contraceptive measure. However, between 1972 and 1976, there was a gradual increase, from 31.5 percent to 36.1 percent, in the proportion of abortions for women with one or two children. There has also been an increase, from 34 percent to 47 percent, in the percent of abortions performed prior to the ninth week of pregnancy when the risk of a woman dying from complications is relatively low. The number of women who died as a result of abortion prior to the ninth week was 0.6 deaths per 100,000 abortions compared with 26.8 at 21 weeks or more gestation.

The abortion rate of 20.5 abortions per 1,000 females 15–44 years of age was much higher in the United States in 1976 than in France (12.4), the Netherlands (5.5), and England and Wales (10.5), but it was lower than in Japan (24.9), and about the same as in Sweden (20.1).[7]

[7] Countries for which comparable data are available.

Table 10. Live births, total fertility rates, and birth rates, according to age of mother and race: United States, selected years 1950–76

(Data are based on the national vital registration system)

Race and year	Live births	Total fertility rate[1]	Age							
			10–14 years	15–19 years	20–24 years	25–29 years	30–34 years	35–39 years	40–44 years	45–49 years
Total			Live births per 1,000 women							
1950	3,632,000	3,090.5	1.0	81.6	196.6	166.1	103.7	52.9	15.1	1.2
1955	4,097,000	3,573.7	0.9	90.3	241.6	190.2	116.0	58.6	16.1	1.0
1960	4,257,850	3,653.6	0.8	89.1	258.1	197.4	112.7	56.2	15.5	0.9
1965	3,760,358	2,912.6	0.8	70.5	195.3	161.6	94.4	46.2	12.8	0.8
1970	3,731,386	2,480.0	1.2	68.3	167.8	145.1	73.3	31.7	8.1	0.5
1971	3,555,970	2,274.6	1.1	64.7	150.6	134.8	67.6	28.7	7.1	0.4
1972	3,258,411	2,021.9	1.2	62.0	131.0	118.7	60.2	24.8	6.2	0.4
1973	3,136,965	1,895.6	1.3	59.7	120.7	113.6	56.1	22.0	5.4	0.3
1974	3,159,958	1,856.6	1.2	58.1	119.0	113.3	54.4	20.2	4.8	0.3
1975	3,144,198	1,799.0	1.3	56.3	114.7	110.3	53.1	19.4	4.6	0.3
1976	3,167,788	1,768.2	1.2	53.5	112.1	108.8	54.5	19.0	4.3	0.2
White										
1950	3,108,000	2,976.8	0.4	70.0	190.4	165.1	102.6	51.4	14.5	1.0
1955	3,485,000	3,443.1	0.3	79.1	235.8	186.6	114.0	56.7	15.4	0.9
1960	3,600,744	3,532.9	0.4	79.4	252.8	194.9	109.6	54.0	14.7	0.8
1965	3,123,860	2,783.4	0.3	60.6	189.0	158.4	91.6	44.0	12.0	0.7
1970	3,091,264	2,385.0	0.5	57.4	163.4	145.9	71.9	30.0	7.5	0.4
1971	2,919,746	2,168.4	0.5	53.8	145.4	134.6	65.7	26.9	6.4	0.4
1972	2,655,558	1,918.2	0.5	51.2	125.6	118.4	58.8	23.3	5.6	0.3
1973	2,551,030	1,798.3	0.6	49.3	115.4	113.7	54.9	20.7	4.9	0.3
1974	2,575,792	1,767.5	0.6	48.3	114.2	113.5	53.5	18.9	4.4	0.2
1975	2,551,996	1,708.2	0.6	46.8	109.7	110.0	52.1	18.1	4.1	0.2
1976	2,567,614	1,679.0	0.6	44.6	107.0	108.4	53.5	17.7	3.8	0.2
All other										
1950	524,000	3,928.3	5.1	163.5	242.6	173.8	112.6	64.3	21.2	2.6
1955	613,000	4,520.2	4.8	167.2	281.6	218.2	132.6	74.9	22.0	2.1
1960	657,106	4,522.1	4.0	158.2	294.2	214.6	135.6	74.2	22.0	1.7
1965	636,498	3,807.9	4.0	138.4	239.2	183.5	113.0	62.7	19.3	1.5
1970	640,122	3,066.7	4.8	133.4	196.8	140.1	82.5	42.2	12.6	0.9
1971	636,224	2,932.8	4.7	129.2	184.6	135.7	79.6	40.2	11.7	0.9
1972	602,853	2,650.5	4.7	125.0	164.5	120.9	69.4	34.9	10.0	0.7
1973	585,935	2,473.6	5.0	119.1	153.2	113.3	63.9	31.0	8.7	0.6
1974	584,166	2,376.8	4.7	113.3	147.4	112.3	60.7	28.9	7.6	0.5
1975	592,202	2,321.6	4.7	108.6	143.5	112.1	59.7	27.6	7.6	0.5
1976	600,174	2,276.2	4.3	102.4	141.7	111.6	60.7	27.0	7.0	0.5
Black:										
1960	602,264	4,541.8	4.3	156.1	295.4	218.6	137.1	73.9	21.9	1.1
1965	581,126	3,828.5	4.3	144.6	243.1	180.4	111.3	61.9	18.7	1.4
1970	572,362	3,098.7	5.2	147.7	202.7	136.3	79.6	41.9	12.5	1.0
1971	564,960	2,913.6	5.1	135.1	187.3	129.0	75.1	38.8	11.6	0.9
1972	531,329	2,621.2	5.1	130.8	166.2	113.9	64.6	33.2	9.8	0.7
1973	512,597	2,437.0	5.4	124.5	154.6	105.9	58.6	29.2	8.6	0.6
1974	507,162	2,332.5	5.0	118.3	148.7	104.8	54.8	26.8	7.5	0.6
1975	511,581	2,284.0	5.1	113.8	145.1	105.4	54.1	25.4	7.5	0.5
1976	514,479	2,235.3	4.7	107.0	143.4	105.5	54.7	24.6	6.8	0.5

[1] Sum of birth rates by age, multiplied by 5.

NOTE: Data are based on births adjusted for underregistration for 1950 and 1955; based on registered births for all other years. Figures for 1960, 1965, 1970, and 1971 are based on a 50–percent sample of births; for 1972–76 they are based on 100 percent of births in selected States and on a 50–percent sample of births in all other States. Beginning in 1970, births to nonresidents of the United States are excluded.

SOURCE: National Center for Health Statistics: *Vital Statistics of the United States, 1976,* Vol. 1. Public Health Service, DHEW, Hyattsville, Md. To be published.

Table 11. Lifetime births expected by married women and percent of expected births already born, according to age and race. United States, selected years 1967–76

(Data are based on reporting of birth expectations by currently married women of the civilian noninstitutionalized population)

Race and year	All ages 14–39 years	Age						
		14–17 years	18–19 years	20–21 years	22–24 years	25–29 years	30–34 years	35–39 years
	Lifetime births expected per 1,000 married women							
Total[1]								
1967	3,115	*	2,719	2,916	2,856	3,037	3,288	3,300
1971	2,776	2,491	2,256	2,373	2,404	2,619	2,989	3,257
1972	[2]2,678	---	2,229	2,210	2,282	2,452	2,915	3,218
1973	[2]2,638	---	2,264	2,274	2,254	2,386	2,804	3,233
1974	2,546	2,109	2,189	2,142	2,170	2,335	2,724	3,090
1975	2,495	1,961	2,189	2,183	2,163	2,260	2,610	3,058
1976	2,442	2,033	2,163	2,122	2,145	2,202	2,536	2,994
White								
1967	[2]3,068	---	2,707	2,964	2,849	3,001	3,200	3,215
1971	2,732	2,417	2,264	2,368	2,367	2,577	2,936	3,189
1972	[2]2,633	---	2,240	2,188	2,268	2,420	2,842	3,155
1973	[2]2,607	---	2,254	2,282	2,255	2,352	2,761	3,180
1974	2,515	2,150	2,161	2,146	2,156	2,304	2,689	3,040
1975	2,455	1,979	2,180	2,144	2,141	2,233	2,564	2,989
1976	2,415	2,028	2,164	2,115	2,123	2,176	2,514	2,949
Black								
1967	[2]3,657	---	*	2,522	2,969	3,407	4,257	4,226
1971	3,304	*	*	2,444	2,787	3,112	3,714	4,223
1972	[2]3,209	---	*	2,409	2,469	2,830	3,749	3,986
1973	[2]3,024	---	*	2,194	2,243	2,799	3,332	3,945
1974	2,913	*	2,432	2,100	2,197	2,779	3,238	3,642
1975	3,013	*	*	2,579	2,497	2,587	3,212	3,962
1976	2,794	*	*	2,228	2,413	2,508	2,923	3,579
	Percent of expected births already born							
Total[1]								
1967	77.5	*	26.9	33.2	47.8	76.1	92.7	97.4
1971	76.7	16.3	25.3	32.5	46.7	74.4	93.7	98.6
1972	[2]78.0	---	27.3	32.6	48.1	73.7	94.3	98.6
1973	[2]77.5	---	26.0	32.7	46.5	73.6	93.5	98.6
1974	76.9	18.6	25.5	31.2	47.1	72.4	93.2	99.1
1975	76.5	24.7	27.5	30.7	43.9	70.9	93.0	99.0
1976	76.8	18.7	26.8	32.1	43.9	71.3	93.1	98.7
White								
1967	[2]76.8	---	24.2	30.1	46.2	75.1	92.9	97.4
1971	76.4	15.8	23.7	31.4	45.3	74.1	93.8	98.7
1972	[2]77.4	---	25.2	30.2	47.3	73.6	94.3	98.6
1973	[2]77.0	---	24.0	30.5	44.5	73.3	93.8	99.0
1974	76.4	18.1	23.3	30.0	45.6	71.8	93.4	99.2
1975	75.9	22.9	24.9	29.4	42.3	70.5	93.2	99.0
1976	76.3	18.7	24.8	30.7	42.3	70.8	93.4	98.7
Black								
1967	[2]87.3	---	*	65.7	67.9	87.9	92.3	98.4
1971	80.2	*	*	43.0	57.5	81.0	93.4	97.8
1972	[2]83.8	---	*	52.2	58.1	75.9	94.6	99.0
1973	[2]84.0	---	*	55.5	67.0	79.0	92.7	97.8
1974	82.6	*	42.1	45.6	61.2	78.6	94.1	99.1
1975	83.0	*	*	43.3	61.0	78.2	91.8	98.8
1976	83.2	*	*	48.8	60.6	78.5	92.3	99.3

[1] Includes all other races not shown separately.

[2] All ages 18–39 years.

SOURCES: U.S. Bureau of the Census: Population characteristics. *Current Population Reports.* Series P–20, Nos. 308, 301, 277, and 254. Washington. U.S. Government Printing Office, June 1977, Nov. 1976, Feb. 1975, and Oct. 1973.

Table 12. Birth rates, according to age of mother and live birth order: United States, selected years 1950–76

(Data are based on the national vital registration system)

Year	Age								
	All ages 15–44 years[1]	10–14 years	15–19 years	20–24 years	25–29 years	30–34 years	35–39 years	40–44 years	45–49 years
	Number of first-order births per 1,000 women								
1950	33.3	0.9	57.7	80.2	37.1	14.5	5.7	1.2	0.1
1955	32.9	0.9	63.7	90.5	33.0	11.5	4.5	1.1	0.1
1960	31.1	0.8	61.4	87.9	26.6	8.6	3.2	0.8	0.0
1965	29.7	0.8	51.6	75.4	24.6	7.2	2.7	0.6	0.0
1970	34.2	1.1	53.7	78.2	31.2	7.3	2.1	0.4	0.0
1971	32.1	1.1	50.8	69.2	30.3	7.0	1.9	0.4	0.0
1972	29.9	1.1	49.4	61.0	29.4	7.0	1.8	0.3	0.0
1973	28.8	1.2	47.6	56.5	30.1	7.3	1.7	0.3	0.0
1974	28.9	1.2	46.0	56.5	32.0	7.8	1.8	0.3	0.0
1975	28.4	1.2	44.4	54.8	32.1	8.1	1.8	0.3	0.0
1976	27.9	1.2	42.0	53.8	32.5	8.9	1.9	0.3	0.0
	Number of third-order births per 1,000 women								
1950	18.4	0.0	3.9	30.7	35.4	23.6	10.0	1.9	0.1
1955	23.1	0.0	4.6	42.3	47.2	29.0	11.9	2.4	0.1
1960	22.8	0.0	5.0	49.9	51.0	25.3	10.0	2.1	0.1
1965	16.6	0.0	3.3	33.0	40.0	19.7	7.2	1.5	0.1
1970	13.6	0.0	2.1	21.6	35.1	17.2	5.1	0.9	0.0
1971	12.5	0.0	1.9	19.5	31.8	15.8	4.6	0.8	0.0
1972	10.7	0.0	1.7	16.0	26.0	14.2	4.1	0.7	0.0
1973	9.8	0.0	1.6	14.2	23.5	13.6	3.8	0.6	0.0
1974	9.6	0.0	1.5	13.5	22.6	13.4	3.6	0.5	0.0
1975	9.5	0.0	1.5	13.1	22.1	13.3	3.6	0.5	0.0
1976	9.6	0.0	1.4	12.9	21.8	13.8	3.7	0.5	0.0

[1] Rates computed by relating total live births, regardless of age of mother, to women 15–44 years of age.

SOURCE: Division of Vital Statistics, National Center for Health Statistics: Selected data.

Table 13. Live births, birth rates, and distribution of births to women under 25 years of age, according to age of mother and race: United States, 1966–76

(Data are based on the national vital registration system)

Race and year	Age												
	All ages 10–24 years	10–14 years	15–17 years	18–19 years	20–24 years	10–14 years	15–17 years	18–19 years	20–24 years	Under 15 years	Under 18 years	Under 20 years	Under 25 years
Total[1]	Number of live births					Live births per 1,000 women				Percent of all live births[2]			
1966	1,927,544	8,128	186,704	434,722	1,297,990	0.8	35.7	120.3	185.6	0.2	5.4	17.5	53.4
1967	1,915,626	8,593	188,234	408,211	1,310,588	0.9	35.3	116.7	172.9	0.2	5.6	17.2	54.4
1968	1,907,688	9,504	192,970	398,342	1,306,872	1.0	35.1	113.5	166.5	0.3	5.8	17.2	54.5
1969	1,971,570	10,468	201,770	402,884	1,356,448	1.0	35.7	112.4	165.7	0.3	5.9	17.1	54.8
1970	2,075,334	11,752	223,590	421,118	1,418,874	1.2	38.8	114.7	167.8	0.3	6.3	17.6	55.6
1971	1,994,500	11,578	226,298	401,644	1,354,980	1.1	38.3	105.6	150.6	0.3	6.7	18.0	56.1
1972	1,802,545	12,082	236,641	379,639	1,174,183	1.2	39.2	97.3	131.0	0.4	7.6	19.3	55.3
1973	1,718,070	12,861	238,403	365,693	1,101,113	1.3	38.9	91.8	120.7	0.4	8.0	19.7	54.8
1974	1,716,029	12,529	234,177	361,272	1,108;051	1.2	37.7	89.3	119.0	0.4	7.8	19.2	54.3
1975	1,688,556	12,642	227,270	354,968	1,093,676	1.3	36.6	85.7	114.7	0.4	7.6	18.9	53.7
1976	1,662,274	11,928	215,493	343,251	1,091,602	1.2	34.6	81.3	112.1	0.4	7.2	18.0	52.5
White													
1966	1,568,898	2,666	119,800	345,312	1,101,120	0.3	26.6	108.2	180.0	0.1	4.1	15.6	52.4
1967	1,554,686	2,761	118,035	317,204	1,116,686	0.3	25.7	104.0	167.9	0.1	4.1	15.0	53.2
1968	1,542,912	3,114	121,166	305,336	1,113,296	0.4	25.6	100.5	162.1	0.1	4.3	14.8	53.0
1969	1,590,042	3,684	128,156	306,118	1,152,084	0.4	26.4	99.2	161.3	0.1	4.4	14.6	53.1
1970	1,667,808	4,320	143,646	319,962	1,199,880	0.5	29.2	101.5	163.4	0.1	4.8	15.1	54.0
1971	1,585,200	4,130	143,806	302,920	1,134,344	0.5	28.6	92.4	145.4	0.1	5.1	15.4	54.3
1972	1,408,764	4,573	150,897	283,089	970,205	0.5	29.4	84.5	125.6	0.2	5.9	16.5	53.0
1973	1,333,569	4,907	153,416	271,417	903,829	0.6	29.5	79.6	115.4	0.2	6.2	16.8	52.3
1974	1,336,658	5,053	152,257	267,895	911,453	0.6	29.0	77.7	114.2	0.2	6.1	16.5	51.9
1975	1,309,878	5,073	148,344	261,785	894,676	0.6	28.3	74.4	109.7	0.2	6.0	16.3	51.3
1976	1,286,548	5,054	139,901	253,374	888,219	0.6	26.7	70.7	107.0	0.2	5.6	15.5	50.1
Black													
1966	335,596	5,370	64,922	84,818	180,486	4.2	97.9	219.2	227.9	1.0	12.6	27.8	60.1
1967	337,682	5,742	68,133	86,410	177,397	4.4	99.5	213.4	211.9	1.1	13.6	29.5	62.1
1968	339,286	6,312	69,594	87,986	175,394	4.7	98.2	206.1	199.8	1.2	14.3	30.9	63.9
1969	352,928	6,650	71,020	90,918	184,340	4.8	96.9	202.5	198.0	1.2	14.3	31.0	65.0
1970	376,648	7,274	76,882	94,944	197,548	5.2	101.4	204.9	202.7	1.3	14.7	31.3	65.8
1971	376,702	7,264	79,238	92,446	197,754	5.1	99.7	193.8	187.3	1.3	15.3	31.7	66.7
1972	361,049	7,363	82,217	90,132	181,337	5.1	99.9	181.7	166.2	1.4	16.9	33.8	68.0
1973	351,290	7,778	81,158	87,615	174,739	5.4	96.8	169.5	154.6	1.5	17.4	34.4	68.5
1974	345,581	7,291	77,947	86,483	173,860	5.0	91.0	162.0	148.7	1.4	16.8	33.9	68.1
1975	344,274	7,315	74,946	86,098	175,915	5.1	86.6	156.0	145.1	1.4	16.1	32.9	67.3
1976	339,499	6,661	71,429	82,507	178,902	4.7	81.5	146.8	143.4	1.3	15.2	31.2	66.0

[1] Includes all other races not shown separately.

[2] Base of percent includes births to all women regardless of age.

SOURCE: Division of Vital Statistics, National Center for Health Statistics: Selected data.

Table 14. Live births and birth rates for unmarried women and ratios of births to unmarried women to total live births, for women under 25 years of age, according to age and race: United States, 1966–76

(Data are based on the national vital registration system)

Race and year	Age											
	All ages 15–24 years	15–17 years	18–19 years	20–24 years	All ages 15–24 years	15–17 years	18–19 years	20–24 years	All ages 15–24 years	15–17 years	18–19 years	20–24 years
	Number of live births to unmarried women				Live births to unmarried women per 1,000 unmarried women				Live births to unmarried women per 1,000 total live births			
Total[1]												
1966	228,300	65,900	69,800	92,500	22.5	13.1	25.8	39.0	118.9	353.0	160.6	71.3
1967	246,000	70,900	73,500	101,600	23.5	13.9	27.8	38.1	129.0	376.7	180.1	77.5
1968	265,900	77,900	80,200	107,900	24.3	14.7	30.0	37.2	140.1	403.7	201.3	82.6
1969	285,100	83,300	84,900	116,900	25.1	15.2	31.5	37.3	145.4	412.8	210.7	86.2
1970	317,100	96,100	94,300	126,700	26.9	17.1	32.9	38.4	153.7	429.8	223.9	89.3
1971	319,200	100,800	93,200	125,200	26.2	17.6	31.7	35.6	161.0	445.4	232.0	92.4
1972	321,900	108,500	93,700	119,600	25.9	18.6	31.0	33.4	179.8	458.5	246.8	101.9
1973	323,900	111,300	93,500	119,100	25.5	18.9	30.6	31.8	189.9	466.9	255.7	108.2
1974	333,400	113,000	97,700	122,700	25.6	19.0	31.4	30.9	195.7	482.5	270.4	110.7
1975	356,600	116,800	105,800	134,000	26.5	19.5	32.8	31 6	212.8	513.9	298.1	122.5
1976	370,300	116,400	108,500	145,400	26.7	19.3	32.5	32.2	224.4	540.2	316.1	133.2
White												
1966	103,200	23,400	34,100	45,800	11.7	5.4	14.3	22.6	65.9	195.3	98.8	41.6
1967	112,900	24,800	35,500	52,500	12.5	5.6	15.4	23.0	72.7	210.1	111.9	47.0
1968	124,200	28,400	38,900	56,800	13.2	6.2	16.8	23.0	80.7	234.4	127.4	51.0
1969	131,000	30,800	39,500	60,700	13.5	6.6	17.0	23.0	82.6	240.3	129.0	52.7
1970	141,500	36,200	43,200	62,100	14.1	7.5	17.6	22.5	85.1	252.0	135.0	51.8
1971	131,400	36,200	39,900	55,300	12.7	7.4	15.9	18.8	83.1	251.7	131.7	48.8
1972	128,100	39,900	38,700	49,500	12.2	8.1	15.1	16.7	91.2	264.4	136.7	51.0
1973	129,400	42,400	38,700	48,300	12.1	8.5	15.0	15.6	97.4	276.4	142.6	53.4
1974	134,600	44,800	40,200	49,600	12.3	8.9	15.4	15.2	101.1	294.2	150.1	54.4
1975	148,400	48,900	45,000	54,500	13.2	9.7	16.6	15.7	113.7	329.6	171.9	60.9
1976	156,500	50,000	47,600	58,900	13.6	9.9	17.0	16.0	122.1	357.4	187.9	66.3
Black												
1966	---	---	---	---	---	---	---	---	---	---	---	---
1967	---	---	---	---	---	---	---	---	---	---	---	---
1968	---	---	---	---	---	---	---	---	---	---	---	---
1969	148,500	51,200	43,900	53,500	100.4	72.3	129.1	125.3	428.8	720.9	482.9	290.2
1970	169,700	58,400	49,500	61,800	107.2	77.9	136.4	131.5	459.4	759.6	521.4	312.8
1971	181,900	63,100	51,800	67,000	108.9	80.9	136.3	131.1	492.4	796.3	560.3	338.8
1972	186,900	66,600	53,200	67,000	106.1	82.9	129.8	122.0	528.4	810.1	590.2	369.5
1973	187,400	67,000	52,900	67,500	102.7	81.9	123.0	117.2	545.5	825.6	603.8	386.3
1974	191,000	66,100	55,200	69,700	100.5	79.4	124.9	111.2	564.6	848.0	638.3	400.9
1975	199,300	65,500	58,200	75,600	100.2	77.7	126.8	109.9	591.5	874.0	676.0	429.8
1976	205,000	64,100	58,500	82,400	97.9	74.6	121.6	109.3	615.9	897.4	709.0	460.6

[1] Includes all other races not shown separately.

SOURCE: Division of Vital Statistics, National Center for Health Statistics: Selected data.

Table 15. Fertility, including teenage fertility, according to selected measures: Selected countries, 1971 and 1975

(Data are based on reporting by countries)

Country	Year							
	1971				1975[1]			
	Number of live births	Live births per 1,000 females 15–49 years of age	Percent of live births to females under 20 years of age	Live births to females under 20 years of age per 1,000 females 15–19 years of age	Number of live births	Live births per 1,000 females 15–49 years of age	Percent of live births to females under 20 years of age	Live births to females under 20 years of age per 1,000 females 15–19 years of age
Canada	362,187	68.6	11.6	39.0	345,645	59.2	11.5	34.7
United States	3,555,970	71.5	18.0	64.7	3,144,198	59.1	18.9	56.3
Sweden	114,484	62.0	8.1	34.6	103,632	56.3	7.3	28.9
England and Wales	783,155	71 6	10 6	50.4	639,885	58.5	10.7	40.5
Netherlands	227,180	72.7	5.4	22.3	177,876	53.9	4.1	12.6
German Democratic Republic	234,870	55.5	21.8	80.0	181,798	45.3	21.8	61.6
German Federal Republic	778,526	54.3	9.1	35.8	600,512	41.2	7.8	21.4
France	881,284	72.9	6.4	27.7	799,217	64.5	---	---
Switzerland	96,261	62.8	5.0	21.9	78,464	49.9	4.5	15 1
Italy	906,182	68 7	9.4	44.4	887,307	66.7	---	---
Israel	85,899	119 0	7 2	41.2	95,628	117 3	7.2	43.7
Japan	2,022,204	68 3	0 1	4.7	1,901,440	62.6	0.8	4.1
Australia	276,362	90 8	11.0	56.3	245,177	76.4	10.7	45 2

[1] Data for Canada, England and Wales, France, Italy, and Australia are for 1974.

NOTE: Countries are grouped by continent

SOURCES: United Nations: *Demographic Yearbook 1975 and 1976,* Pub. No. ST/ESA/STAT/SER.R/4 New York. United Nations, 1976 and 1977; World Health Organization: *World Health Statistics, 1977.* Vol. 1. Geneva. World Health Organization, 1977; World Health Organization: Selected data; National Center for Health Statistics: Final natality statistics, 1975. *Monthly Vital Statistics Report.* Vol. 25, No. 10. DHEW Pub. No (HRA) 77–1120. Health Resources Administration. Washington. U.S. Government Printing Office, Dec. 30, 1976.

Table 16. Legal abortions, abortion rates, and abortion ratios: Selected countries, selected years 1973–76

(Data are based on reports by selected international organizations)

Country and year	Number of abortions[1]	Abortion rate[2]	Ratio[3]	
			Abortions per 1,000 live births	Abortions per 1,000 live births and abortions
Canada				
1973	43,200	8.8	127	113
1974	48,200	9.6	136	120
1975	49,300	9.5	---	---
United States[4]				
1973	615,800	13.6	198	165
1974	763,500	16.5	240	193
1975	854,900	18.1	273	215
1976	988,300	20.5	302	232
Japan				
1973	700,500	26.3	340	254
1974	679,800	25.5	346	257
1975	651,600	24.4	347	258
1976	664,100	24.9	---	---
France				
1976	133,600	12.4	---	---
German Democratic Republic				
1973	110,800	32.2	619	383
1974	99,700	28.8	553	256
1975	87,800	25.2	485	327
German Federal Republic				
1973	13,000	1.1	21	20
1974	17,800	1.4	29	28
Netherlands[5]				
1973	20,000	7.1	107	97
1974	17,000	6.0	93	85
1975	16,000	5.5	92	83
1976	16,000	5.5	---	---
Sweden				
1973	26,000	16.3	237	192
1974	30,600	19.2	284	221
1975	32,500	20.3	325	245
1976	32,400	20.1	---	---
England and Wales[6]				
1973	110,600	11.7	170	145
1974	109,400	11.5	175	149
1975	106,200	11.1	179	152
1976	101,000	10.5	---	---

[1] All numbers are rounded to the nearest 100.

[2] Number of abortions per 1,000 women 15–44 years of age.

[3] The reference period for the live births (denominator of ratio) is 6 months later than the reference period for the abortions.

[4] Abortions reported to the Center for Disease Control.

[5] Data are for residents only. In addition, 84,000 abortions were provided for nonresidents.

[6] Data are for residents only. In addition, between 1973 and 1976, 171,000 abortions were provided for nonresidents.

SOURCE: Population Council: Induced abortion, 1977 supplement, by C. Tietze. *Reports on Population/Family Planning,* No. 14, 2nd ed. New York. Population Council, Inc., Dec. 1977; National Center for Health Statistics: Data computed by the Division of Analysis from data compiled by the Division of Vital Statistics and by the Center for Disease Control.

Table 17. Contraceptive use by currently married women 15–44 years of age, according to method of contraception, race, and age: United States, 1965, 1970, 1973, and 1976

(Data based on household interviews of samples of married women in the childbearing ages)

Race, age, and year of survey	Number of currently married women in thousands	Total	Method of contraception						
			Wife sterilized	Husband sterilized	Pill	IUD	Diaphragm	Condom	All other
		Percent using contraception							
ALL RACES[1]									
15–44 years									
1965	24,710	63.9	4.5	3.3	15.3	0.7	6.3	14.0	19.8
1970	25,577	65.0	5.5	5.1	22.3	4.8	3.7	9.2	14.4
1973	26,646	69.7	8.6	7.8	25.1	6.7	2.4	9.4	9.7
1976	27,185	68.0	[2]9.6	[2]9.7	22.4	6.1	2.9	7.2	10.1
15–24 years									
1965	5,324	59.8	0.8	0.9	29.2	1.1	2.6	9.4	15.8
1970	6,212	63.4	0.6	0.8	37.1	5.6	1.6	5.7	12.0
1973	5,977	68.8	2.6	1.5	44.9	7.2	1.1	5.7	6.0
1976	5,941	68.0	[2]2.5	[2]1.0	42.9	6.2	2.5	4.9	7.9
25–34 years									
1965	9,316	68.3	4.7	3.7	17.2	0.9	6.0	15.9	19.9
1970	10,484	68.6	5.4	5.0	23.8	6.6	3.8	9.2	14.8
1973	11,311	73.0	8.3	8.2	25.7	9.0	2.3	9.7	9.6
1976	12,014	71.0	[2]10.6	[2]9.2	23.3	7.2	3.1	7.5	10.1
35–44 years									
1965	10,070	61.9	6.3	4.1	6.1	0.4	8.6	14.7	21.7
1970	8,881	61.9	9.1	8.1	10.0	2.2	5.0	11.7	15.8
1973	9,358	66.4	12.9	11.3	11.8	3.5	3.4	11.5	12.0
1976	9,230	64.1	[2]13.0	[2]15.9	7.9	4.6	3.0	8.3	11.4
WHITE									
15–44 years									
1965	22,382	64.9	4.1	3.5	15.6	0.7	6.8	14.5	19.7
1970	23,220	65.7	4.9	5.5	22.4	4.8	3.8	9.7	14.6
1973	24,249	70.7	8.2	8.4	25.1	6.6	2.5	10.0	9.9
1976	24,518	69.1	[2]9.7	[2]10.5	22.5	6.1	3.0	7.4	9.9
15–24 years									
1965	4,724	59.6	0.6	1.0	30.7	0.9	2.6	9.2	14.6
1970	5,595	63.8	0.4	0.8	37.6	5.3	1.7	5.9	12.1
1973	5,384	69.2	2.4	1.7	44.5	7.2	1.2	6.1	6.1
1976	5,339	69.3	[2]2.4	[2]1.1	43.9	6.3	2.8	5.1	7.7

25–34 years									
1965	8,387	69.4	4.3	4.0	17.3	0.8	6.5	16.3	20.2
1970	9,578	69.0	4.9	5.4	23.7	6.6	3.9	9.7	14.8
1973	10,347	73.7	8.2	8.6	25.8	8.9	2.4	10.1	9.8
1976	10,840	71.9	[2]10.9	[2]10.0	23.2	7.1	3.2	7.6	9.9
35–44 years									
1965	9,271	63.2	5.6	4.4	6.3	0.4	9.1	15.6	21.8
1970	8,047	63.5	8.2	8.9	10.2	2.3	5.2	12.4	16.3
1973	8,518	67.9	11.9	12.3	12.0	3.5	3.6	12.3	12.3
1976	8,339	65.3	[2]12.7	[2]17.1	7.8	4.6	3.0	8.6	11.4
BLACK									
15–44 years									
1965	2,091	57.2	8.3	0.3	12.4	1.7	2.9	9.7	21.9
1970	2,031	59.2	11.4	0.6	22.1	4.5	3.1	4.0	13.4
1973	2,081	60.3	14.0	1.0	26.3	7.6	1.2	3.2	7.0
1976	2,145	58.4	[2]11.0	[2]1.9	22.1	6.1	1.8	4.5	11.0
15–24 years									
1965	555	61.5	1.9	0.4	17.1	3.5	1.9	10.9	25.8
1970	506	60.5	1.0	0.0	35.9	6.2	1.5	4.1	11.8
1973	547	66.2	4.3	0.1	48.6	7.9	0.1	1.4	3.9
1976	504	58.6	[2]3.7	[2]0.3	35.8	5.8	0.2	3.4	9.4
25–34 years									
1965	794	62.8	7.9	0.3	17.1	1.9	2.7	12.8	20.1
1970	787	67.3	11.2	0.7	26.4	5.6	3.6	3.6	16.2
1973	819	63.8	11.4	1.8	27.1	10.7	1.8	3.1	7.9
1976	900	62.2	[2]9.3	[2]0.4	26.1	7.1	1.7	5.5	12.1
35–44 years									
1965	742	47.9	13.4	0.3	3.8	0.0	3.8	5.5	21.1
1970	738	49.4	18.7	1.1	8.1	2.1	3.5	4.2	11.7
1973	715	51.9	24.3	0.9	8.2	4.0	1.4	4.7	8.4
1976	741	53.6	[2]18.1	[2]4.8	7.7	5.0	2.9	4.1	10.9

[1] Includes all other races not shown separately.

[2] Due to changes in wording of the question on contraceptive intent of sterilization operations in the 1976 survey, estimates of contraceptive sterilization in 1976 should be considered conservative.

NOTE: The 1965 and 1970 data are from the National Fertility Studies and the 1973 and 1976 data are from the National Survey of Family Growth.

SOURCES: National Center for Health Statistics: Data computed from data compiled by Westoff, C.F.: Trends in contraceptive practice, 1965–1973. *Family Planning Perspectives* 8(2):54–57, Mar.-Apr. 1976; Unpublished data from the 1976 National Survey of Family Growth.

Table 18. Legal abortions, according to selected characteristics of the patient or of the procedure: United States, 1972–76

(Data are based on reporting by State health departments and by facilities)

Selected characteristic	Year				
	1972	1973	1974	1975	1976
Number of legal abortions reported					
Center for Disease Control	586,760	615,831	763,476	854,853	988,267
Alan Guttmacher Institute	---	744,600	898,600	1,034,200	1,179,300
	Percent distribution				
Total	100.0	100.0	100.0	100.0	100.0
Age					
Under 20 years	32.6	32.7	32.7	33 1	32.1
20–24 years	32.5	32.0	31.8	31.9	33.3
25 years and over	34.9	35.3	35 6	35.0	34.6
Color					
White	77.0	72.5	69.7	67.8	66.6
All other	23.0	27.5	30.3	32.2	33.4
Marital status					
Married	29 7	27.4	27.4	26 1	24.6
Unmarried	70.3	72.6	72.6	73 9	75.4
Number of living children					
0	49.4	48.6	47.8	47 1	47.7
1	19.2	18.8	19.6	20 2	20.7
2	13 3	14.2	14.8	15.5	15.4
3	8 7	8.7	8.7	8.7	8.3
4	5.0	4.8	4.5	4.4	4.1
5 or more	5.4	4.9	4.5	4.2	3.8
Location of abortion facility					
In State of residence	56.2	74.8	86.6	89.2	90.0
Out of State of residence	43.8	25 2	13.4	10.8	10.0
Procedure					
Curettage	88.6	88.4	89.7	90.9	92.8
Suction	65.2	74.9	77.5	82.6	82.6
Sharp	23.4	13.5	12.3	8.4	10.2
Intrauterine instillation	10.4	10.4	7.8	6.2	6.0
Hysterotomy or hysterectomy	0.6	0.7	0.6	0 4	0.2
Other	0.5	0.6	1.9	2.4	0.9
Period of gestation					
Under 9 weeks	34.0	36.1	42.6	44.6	47.0
9–10 weeks	30.7	29.4	28.7	28.4	28.0
11–12 weeks	17.5	17.9	15.4	14.9	14.4
13–15 weeks	8.4	6.9	5.5	5.0	4.5
16–20 weeks	8.2	8.0	6.5	6.1	5.1
21 weeks and over	1.3	1.7	1.2	1.0	0.9

NOTE: Percent distributions exclude cases for which selected characteristic was unknown and are based on abortions reported to the Center for Disease Control.

SOURCE: Center for Disease Control: *Abortion Surveillance, 1976.* DHEW Pub No. (CDC) 78–8276. Public Health Service. Washington U.S. Government Printing Office, Apr. 1978; Sullivan, E., Tietze, C., and Dryfoos, J.: Legal abortions in the United States, 1975–1976. *Family Planning Perspectives* 9(3):116-129, May-June 1977; The Alan Guttmacher Institute: Personal communication, 1978.

Table 19. Legal abortions, abortion-related deaths and death rates, and relative risk of death, according to period of gestation: United States, 1972–76

(Data are based primarily on reporting by State health departments and by facilities)

Period of gestation	Number of legal abortions reported	Abortion-related deaths		Relative risk of death[1]
		Number	Deaths per 100,000 abortions	
Total	3,809,187	116	3.0	. . .
Under 9 weeks	1,593,649	10	0.6	1.0
9–10 weeks	1,100,484	19	1.7	2.8
11–12 weeks	600,357	17	2.8	4.7
13–15 weeks	216,983	17	7.8	13.0
16–20 weeks	249,161	40	16.1	26.8
21 weeks and over	48,553	13	26.8	44.7

[1] Relative risk based on the index rate of 0.6 for the gestation period under 9 weeks.

SOURCE: Center for Disease Control: *Abortion Surveillance, 1976.* DHEW Pub. No. (CDC) 78–8276. Public Health Service. Washington. U.S. Government Printing Office, Apr. 1978.

C. Mortality

The crude death rate in the United States attained the lowest level in its history in 1975 and 1976, 8.9 deaths per 1,000 population. The preliminary 1977 data indicate a further decrease to 8.8.

With the exception of epidemic years, death rates in the United States declined fairly steadily during the first half of this century. After a slight rise in the mid-1950's to mid-1960's, the rates resumed a downward trend. From 1970 to 1976, the greatest relative decreases in death rates were for children under 10 years of age and adults 30–44 years of age.

Death rates are lower for white people than for black people from infancy through 75–79 years of age. At 80–84 years of age an often-noted "crossover" occurs and death rates are higher for white people than for black people and appear to remain so through the oldest ages. Although various hypotheses have been offered to explain this phenomenon, none have been supported by conclusive evidence.

The Social Security Administration has prepared a set of mortality projections, and based on their assumptions, mortality decreases by the year 2000 will be greatest for infancy and early childhood. They also will be greater for females than for males, implying a continuation of the widening of the sex differential in mortality. By 2000, mortality rates for males 15–34 years of age are expected to rise as a result of a projected increase in deaths due to accidents, suicides, and homicides for these ages.[1] More certain is the projected rise in the crude death rate because of increasing proportions of the elderly in the total population. By the year 2000, the crude death rate is projected to reach 10.2 per 1,000 population.

NOTE: Unless otherwise noted, data are from the ongoing data-collection systems of the National Center for Health Statistics. In many instances the data have been published in the *Vital and Health Statistics* series.

[1] Office of the Actuary: United States population projections for OASDHI cost estimates, by F. R. Bayo, H. W. Shiman, and B. R. Sobus. *Actuarial Study No. 76.* DHEW Pub. No. (SSA)77-11522. Social Security Administration. Baltimore, Md., June 1977.

Knowledge of changes in specific rates—that is, rates specific for any number of population characteristics, such as sex, race, and age—is useful for the health planner. Geographic differences in age or race specific mortality rates may signal a need for new or modified health care services and facilities and may direct attention to possible environmental problems associated with specific localities.

A large part of the change in the death rate from one calendar year to the next, however, is because of the changing age structure of the population. For an analysis of trends over time, it is advantageous to look at the age-adjusted death rate, a summary statistic useful for making annual comparisons. The rate shows what the level of mortality would be if no changes occurred in the age composition of the population from year to year. From the beginning of this century, the age-adjusted death rate decreased by 53 percent from 17.8 in 1900 to 8.4 in 1950, and then by another 25 percent to 6.3 in 1976. If the decrease from 1950 to 1976 were measured only by the crude rate, however, the decrease would be about 7 percent, a figure that does not reflect the magnitude of the true mortality decline.

Ever since mortality statistics have been collected in most parts of the world, two phenomena have been evident. The age-adjusted death rates for males have been higher than the rates for females, and the death rates for white people have been lower than the rates for all other people.

In looking at U.S. data, the "all other" category is composed primarily of black people, and most of the deaths in the "all other" category refer to black deaths. The remaining races in the "all other" category include Indians, Chinese, Japanese, and others and when combined have a lower mortality rate than the white population.

The relative difference between the age-adjusted rates for males and females has been increasing over time. In 1900, death rates for males were only about 9 percent greater than for females; by 1950, the difference had grown to 45 percent. In 1976, mortality for males was 80 percent higher than for females. On the other hand, the

difference between color groups had been narrowing slowly. Mortality rates for the white population were about 37 percent lower than rates for all other people in 1900; by 1976, the difference was reduced to about 28 percent.

The expectation of life at birth is an indicator that summarizes levels of mortality. For a person born in 1976, it was 25.5 years more than for someone born in 1900, with life expectancy increasing from 47.3 years to 72.8 years. More than 80 percent of this increase occurred between 1900 and 1950. The major factor related to the tremendous gain during the first 50 years of this century was the decrease in mortality from infectious and parasitic diseases which for the most part affected infants and young children. Since 1950, 4.6 years have been added to life expectancy at birth.

Expectation of life at birth is influenced heavily by mortality rates for infancy and childhood. Just as most of the selected industrialized countries had lower infant mortality rates, they also had higher life expectancies at birth than the United States. Of the 12 countries selected for comparison, only in the German Democratic Republic was life expectancy at birth in 1976 for men lower than in the United States. Only in England and Wales and the German Democratic Republic was life expectancy at birth for women in 1976 lower than it was for women in the United States. At 65 years of age, however, the position of the United States was practically reversed. Women at 65 years of age in the United States could expect to live as long as or longer than women in all other selected developed countries. Life expectancy for men at 65 years of age also compared more favorably with other countries than did life expectancy at birth. This reflects the fact that the excess in mortality rates for men in the United States, as compared to other countries, is greater in childhood and early adulthood but less marked at older ages.

Infant mortality rates are useful for identifying problems with the health status of infants and mothers and possible problems in the delivery of health care and related services to these groups in the community. At the beginning of the 20th century in the United States and as late as 1918, the available data indicate that 1 in 10 infants died in the first year of life. Not until 1950 did the infant mortality rate fall below 30 deaths per 1,000 live births. Although the black infant mortality rate was still almost twice as high as the white infant mortality rate in 1976, 25.5 versus 13.3, the rates for both races have been declining over the past quarter of a century.

Comparable decreases have been noted in late fetal mortality. The trend in perinatal mortality reflects the declining risks in both the late fetal and early infancy period. The perinatal mortality rate decreased by nearly 50 percent between 1950 and 1976 from 32.5 to 16.7 perinatal deaths per 1,000 live births and late fetal deaths.

A number of factors may have worked together to bring about the reductions in infant and perinatal mortality: (1) more women receiving prenatal care early in pregnancy, (2) a decreasing proportion of higher order, thus higher risk births, (3) advances in medical science, particularly in neonatalogy, (4) increasing availability of the most modern care through regional perinatal centers, (5) improvements in contraceptive utilization, allowing women to time and space their pregnancies more effectively, thereby reducing the proportion of high risk births, (6) increasing legal abortion rates, (7) the availability of programs to improve the nutrition of pregnant women and infants, and (8) general improvements in socioeconomic conditions.

Infant mortality rates in the United States do not compare favorably with rates in other selected industrialized nations. In both 1971 and 1976, 9 of the 12 selected industrialized countries had lower infant mortality rates than the United States. The 1976 rates in Sweden and in Japan were 8.7 and 9.3 infant deaths per 1,000 live births, respectively, and they were substantially lower than the U.S. rate of 15.2. Even if only the infant mortality rate for the U.S. white population is used, the rate is still higher than the rates in Sweden, the Netherlands, France, Switzerland, and Japan. The U.S. perinatal mortality ratio compared somewhat more favorably with other countries, but this may partly be

the result of international differences in distinguishing between fetal and infant deaths.

For about the past three decades, heart disease and cancer have accounted for more than 50 percent of all deaths in the United States. In 1976, 58 percent of all deaths were caused by these two categories of diseases. The increase in the proportion of all mortality accounted for by heart disease and cancer can be attributed, in part, to the aging of the population, decreases in mortality from infectious and certain other categories of disease, changes in cause of death reporting, and, for some cancer sites, to a true increase in the incidence of the disease.

Heart disease continues to be the leading cause of death in the United States and as such is the dominant influence on total mortality rates. In 1976, there were 724,000 deaths from diseases of the heart, 35 percent more than in 1950 but almost 2 percent less than in 1970. Throughout the first half of this century, the death rate for heart disease rose continually and peaked in the early 1960's. It has since been declining. Between 1960 and 1976, despite an aging population, the death rate decreased 9 percent to 337 deaths per 100,000 population. During that period, the mortality rate for each 5-year age group from 25–69 years of age decreased by more than 25 percent, while for each succeeding age group through 85 years of age and over the decline was more than 19 percent.

Heart disease mortality, like total mortality, is higher for males than for females. Between 1950 and 1976, the ratio of age-specific heart disease death rates for white males to the rates for white females increased for nearly every age group. In 1976, the death rates for white males 40–44 through 50–54 years of age were more than 4 times the rates for white females in the same age groups.

Heart disease mortality also affects the white and black populations differently. In 1976, the mortality rate for white males was much higher than the rate for black males. Nearly all of the differences, however, could be accounted for by the older age distribution of the white population. That is, if the black population had had the same age distribution as the white population, the mortality rate for black people would have been fairly similar to the rate for white people.

Ischemic heart disease mortality, which includes about 90 percent of all heart disease mortality, decreased by 11 percent between 1968 and 1976.[2] Excluding changes in the age distribution of the population over the 8-year period, the decline would have been close to 28 percent. For persons 65 years of age and over, the rate decreased by 16 percent to 2,166 deaths per 100,000 population. The rate for white males 65–69 years of age decreased by 20 percent to 1,403 and for blacks males by 29 percent to 1,236 deaths per 100,000 population.

For each year 1970 through 1975, age-adjusted death rates for ischemic heart disease for males and females were higher in the United States than they were in other selected industrialized countries including Sweden, England and Wales, the Netherlands, Canada, the German Federal Republic, Switzerland, and Japan. Ischemic heart disease mortality rates in Japan are much lower than in the other selected countries. Some of the wide variation is attributed to the low cholesterol diet of the Japanese people, and some to the classification of sudden deaths as stroke rather than heart disease. Although for most selected countries the rates were relatively stable or showed a slight increase during the 5 years, the mortality rates from ischemic heart disease for the United States decreased.

Between 1950 and 1976, the death rate from all malignant neoplasms increased by 26 percent from 140 to 176 deaths per 100,000 persons, while the age-adjusted death rate increased by only 5.5 percent during these 26 years. It is apparent, therefore, that changes in the age distribution accounted for a large portion of the increase in the death rates. Cancer usually strikes middle-aged and older people, although relative to other causes of death, cancer still ranked in the leading three causes of death for children 1–4 and 5–14 years of age in 1976. From 1950 to 1976, cancer mortality

[2] Because of revisions in the International Classification of Diseases, time trend data for ischemic heart disease mortality are only available since 1968.

for people under 45 years of age decreased, while for each succeeding 5-year age group, from 45–49 to 80–84 years of age, cancer mortality increased. For those 65 years of age and over, death rates for cancer increased 15 percent in the 26-year period from 851 to 979 deaths per 100,000 persons.

In 1976, the death rate for cancer was highest for white males (199) and lowest for females other than white (118). The risk of cancer mortality increased most notably among black males from 1950 to 1976. The age-specific death rates increased during the 26 years for each 5-year age group beginning with 35–39 years of age. At 65 years of age and over, the rate for black males more than doubled to 1,475 deaths per 100,000 population. Among females, on the other hand, from 1950 to 1976, the age-specific rates for white people decreased for all but one 5-year age group, and for black people the rates decreased for those under 65 years of age and increased for those 65 years of age and over.

Nearly one-fourth of all cancer mortality in 1976 was caused by cancer of the respiratory system, and more than 95 percent of the respiratory cancer was cancer of the trachea, bronchus, and lung. For deaths among males from cancer in the United States, lung cancer was the most prevalent cause. In the past quarter of a century, mortality from cancer of the respiratory system tripled, increasing from 14 deaths per 100,000 population in 1950 to 43 in 1976. The age-adjusted rate more than doubled during this period. Among black people, the death rate more than quadrupled during this period.

As with all cancer mortality, respiratory cancer mortality rises sharply with age. Between 1950 and 1976, the death rate for people 65 years of age and over increased threefold to 211 deaths per 100,000 people 65 years of age and over. Among black males 65 years of age and over, respiratory cancer mortality increased nearly sevenfold in the 26-year period, reaching 394 deaths per 100,000 in 1976.

The sex ratio in respiratory cancer mortality rates has narrowed during the past 15 years for both white and black people because of the faster rate of increase in rates for females. The rate in 1976 for white males, however, was still more than 3 times the rate for white females (68 versus 21), and the rate for black males was more than 4 times the rate for black females (63 versus 15).

The much higher respiratory cancer mortality among males can be attributed to, among other variables, the diversity of carcinogenic substances known to be associated with heavy industry. In the United States, it has been shown that men who are miners, laborers, and transportation workers have an increased risk of cancer (except skin cancer) when compared to men involved in agricultural occupations.[3] The effects of increased heavy cigarette smoking among women may be one of the factors involved in the narrowing of sex ratios in mortality rates for respiratory cancer.

International comparisons of cancer mortality between the United States and eight selected industrialized countries of Western Europe, Canada, Australia, Israel, Japan, and Mexico for the period 1961–76 show that the age-adjusted death rates for males in the United States were lower than the rates in all but four countries (Mexico, Sweden, Israel, and Japan).[4] Between 1970 and 1975, the rate for males in the Netherlands was higher than that in any of the selected countries, and in 1975, it was 25 percent higher than the United States rate of 207 per 100,000 population.

Mortality from cancer of the trachea, bronchus, and lung shows a different pattern. It has been exceedingly high in the United States among both males and females. Only England and Wales, the Netherlands, and Israel have had higher death rates from cancer at these sites.

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[3] National Cancer Institute: *Cancer Rates and Risks*, 2d ed., by D. L. Levin, et al. DHEW Pub. No. (NIH)76–691. Public Health Service. Washington. U.S. Government Printing Office, 1974.

[4] If rates for only white males in the United States were compared, these differences might not have occurred.

Table 20. Death rates, according to race, sex, and age: United States, 1976

(Data are based on the national vital registration system)

Age	All races			White			All other					
							Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number of deaths per 100,000 resident population											
All ages[1]	889.6	1,007.0	778.3	899.4	1,010.4	793.6	824.8	983.5	680.0	886.2	1,051.8	735.7
Under 1 year	1,595.0	1,762.6	1,419.0	1,356.2	1,511.8	1,192.1	2,781.5	3,012.4	2,542.2	3,014.2	3,282.8	2,738.1
1–4 years	69.9	78.2	61.3	64.1	71.9	55.9	96.9	107.5	86.1	102.5	112.9	92.1
5–9 years	34.8	41.0	28.3	32.7	38.3	26.9	45.1	54.8	35.4	47.0	57.0	37.0
10–14 years	34.6	44.0	25.0	33.7	42.8	24.2	39.5	49.9	29.0	39.9	50.7	29.0
15–19 years	97.1	139.9	53.2	96.0	138.1	52.6	103.3	149.8	56.9	102.2	147.3	57.3
20–24 years	131.3	198.4	64.4	120.0	182.4	57.0	199.5	300.1	107.2	208.8	316.7	110.7
25–29 years	129.3	187.2	72.4	110.9	159.8	61.8	254.8	389.9	139.3	276.3	422.3	150.5
30–34 years	144.8	196.5	94.5	122.4	164.2	80.9	297.8	436.6	180.7	328.6	486.5	196.3
35–39 years	198.4	261.6	138.6	168.4	219.2	119.2	405.0	580.5	261.8	435.8	629.0	278.0
40–44 years	313.4	406.0	225.3	271.9	352.2	194.0	601.1	811.3	426.1	650.7	883.9	456.9
45–49 years	498.1	647.8	356.3	450.0	586.6	319.0	863.6	1,138.3	625.6	945.4	1,240.1	687.6
50–54 years	767.7	1,017.3	536.8	706.8	940.9	488.4	1,280.3	1,683.3	928.6	1,389.1	1,828.0	1,009.0
55–59 years	1,175.0	1,578.0	807.2	1,107.7	1,496.4	751.0	1,796.6	2,352.8	1,312.6	1,917.7	2,522.4	1,396.0
60–64 years	1,822.8	2,496.3	1,230.5	1,743.6	2,407.9	1,157.7	2,579.2	3,371.4	1,917.0	2,710.7	3,569.3	2,005.7
65–69 years	2,541.5	3,586.9	1,712.8	2,488.7	3,542.9	1,651.5	2,990.0	3,963.4	2,229.2	3,072.7	4,118.2	2,281.3
70–74 years	3,948.3	5,433.7	2,856.4	3,824.1	5,340.8	2,721.9	5,335.2	6,394.1	4,452.1	5,750.6	6,932.8	4,803.8
75–79 years	6,186.7	8,263.3	4,850.6	6,102.6	8,246.8	4,745.3	7,131.4	8,428.5	6,132.6	7,916.8	9,426.9	6,800.6
80–84 years	9,034.4	11,521.1	7,632.5	9,183.4	11,774.4	7,743.4	7,394.7	9,010.0	6,333.6	7,812.5	9,555.1	6,698.4
85 years and over	15,486.9	17,983.9	14,312.1	16,068.5	18,767.6	14,823.3	10,018.5	11,519.1	9,175.2	10,511.5	12,375.0	9,554.1

[1] Includes unknown age.

NOTE: Excludes deaths of nonresidents of the United States.

SOURCE: National Center for Health Statistics: *Vital Statistics of the United States, 1976,* Vol. II, Part A. Washington. U.S. Government Printing Office, Public Health Service, DHEW, Hyattsville, Md. To be published; Data computed by the Division of Analysis from data compiled by the Division of Vital Statistics.

Table 21. Death rates, life expectancy, and projections, according to sex and age: United States, 1976 and 2000

(Data are based on intercensal estimates and national vital registration system)

Age	Sex					
	Male			Female		
	1976[1]	2000	Percent change	1976[1]	2000	Percent change
	Number of deaths per 1,000 resident population			Number of deaths per 1,000 resident population		
All ages[2]	9.99	9.42	−5.7	7.44	6.75	−9.3
Under 1 year	18.96	15.04	−20.7	14.92	11.74	−21.3
1–4 years	0.79	0.71	−10 1	0.64	0.55	−14.1
5–9 years	0.43	0.40	−7.0	0.30	0.27	−10.0
10–14 years	0.47	0.45	−4.3	0.28	0.25	−10.7
15–19 years	1.49	1.55	4.0	0.55	0.53	−3.6
20–24 years	2.04	2.13	4.4	0.66	0.63	−4.5
25–29 years	1.90	1.95	2.6	0.77	0.72	−6.5
30–34 years	2.06	2.08	1 0	1.01	0.94	−6.9
35–39 years	2.74	2.68	−2.2	1.64	1.52	−7.3
40–44 years	4.16	3.94	−5.3	2.44	2.26	−7.4
45–49 years	6.82	6.41	−6.0	3 74	3.44	−8.0
50–54 years	10.31	9.64	−6.5	5 49	5.03	−8.4
55–59 years	16.27	15.17	−6.8	8.24	7.57	−8.1
60–64 years	24.94	23.14	−7.2	12.35	11.18	−9.5
65–69 years	36.52	34.18	−6.4	17.78	16.05	−9.7
70–74 years	55.04	51.78	−5.9	29.97	27.14	−9.4
75–79 years	81.86	77 37	−5.5	49.82	44 80	−10.1
80–84 years	114.14	109.11	−4 4	78.83	70.45	−10 6
85 years and over	183.61	183.20	−0.2	151.71	149.52	−1.4
	Remaining life expectancy in years			Remaining life expectancy in years		
At birth	68.7	69 6	1.3	76.1	77.4	1.7
1 year	69.0	69.6	0.9	76.2	77.3	1.4
5 years	65.2	65.8	0.9	72.4	73.5	1.5
10 years	60.3	60.9	1.0	67.5	68.6	1.6
20 years	50.9	51.5	1.2	57 8	58.8	1.7
30 years	41 8	42.4	1.4	48.2	49.2	2.1
40 years	32.7	33.3	1.8	38.7	39.7	2.6
50 years	24.2	24.8	2.5	29.8	30.7	3.0
60 years	16.8	17.3	3.0	21 5	22.3	3.7
65 years	13.7	14.2	3.6	17.7	18.5	4.5
70 years	11.0	11.3	2.7	14 1	14.8	5.0

[1] The 1976 death rates and expectation of life were estimated by the Social Security Administration; when the Social Security Administration study was underway, the 1976 figures were not final and were estimated by adjusting the 1974 rates.

[2] Age-adjusted rate computed by the direct method and standardized to the United States population in 1970 using 19 age groups.

SOURCE: Office of the Actuary: United States population projections for OASDHI cost estimates, by F. R. Bayo, H. W. Shiman, and B. R. Sobus. *Actuarial Study No. 76.* DHEW Pub. No. (SSA)77–11522. Social Security Administration. Baltimore, Md., June 1977; Division of Vital Statistics, National Center for Health Statistics: Selected data.

Table 22. Age-adjusted death rates, according to color and sex: United States, selected years 1900–1976

(Data are based on the national vital registration system)

Year	Color								
	Total			White			All other		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number of deaths per 1,000 resident population								
1900[1]	17.8	18.6	17.0	17.6	18.4	16.8	27.8	28.7	27.1
1910[1]	15.8	16.9	14.6	15.6	16.7	14.4	24.1	24.8	23.2
1920[1]	14.2	14.7	13.8	13.7	14.2	13.1	20.6	20.4	21.0
1930[1]	12.5	13.5	11.3	11.7	12.8	10.6	20.1	21.0	19.2
1940	10.8	12.1	9.4	10.2	11.6	8.8	16.3	17.6	15.0
1945	9.5	11.1	8.0	9.1	10.7	7.5	13.1	14.5	11.9
1950	8.4	10.0	6.9	8.0	9.6	6.5	12.3	13.6	10.9
1955	7.7	9.3	6.1	7.4	9.1	5.7	10.4	11.9	9.1
1960	7.6	9.5	5.9	7.3	9.2	5.6	10.5	12.1	8.9
1965	7.4	9.5	5.6	7.0	9.1	5.3	10.1	12.2	8.3
1970	7.1	9.3	5.3	6.8	8.9	5.0	9.8	12.3	7.7
1971	7.0	9.2	5.2	6.7	8.8	4.9	9.6	12.1	7.5
1972[2]	7.0	9.2	5.2	6.7	8.8	4.9	9.7	12.3	7.5
1973	6.9	9.1	5.1	6.6	8.7	4.8	9.5	12.1	7.4
1974	6.7	8.8	4.9	6.4	8.4	4.7	9.0	11.5	6.9
1975	6.4	8.5	4.7	6.1	8.1	4.5	8.5	11.0	6.5
1976	6.3	8.3	4.6	6.0	8.0	4.4	8.3	10.7	6.4

[1] Death registration areas only. The death registration areas increased in number from 10 States and the District of Columbia in 1900 to the entire coterminous United States in 1933.

[2] Data are based on a 50-percent sample of deaths.

NOTE: Beginning 1970, deaths of nonresidents of the United States are excluded. Age-adjusted rates are computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Adjustment is based on 11 age groups.

SOURCES: National Center for Health Statistics: *Vital Statistics of the United States,* Vol. II, for data years 1900–1973, Washington. U.S. Government Printing Office; for data years 1974–1976, Public Health Service, DHEW, Hyattsville, Md. To be published.

Table 23. Life expectancy at specified ages, according to color and sex: United States, selected years 1900–1976

(Data are based on the national vital registration system)

Specified age and year	Color				
	Total	White		All other	
		Male	Female	Male	Female
	Remaining life expectancy in years				
At birth					
1900[1]	47.3	46.6	48.7	32.5	33.5
1950	68.2	66.5	72.2	59.1	62.9
1960	69.7	67.4	74.1	61.1	66.3
1970	70.9	68.0	75.6	61.3	69.4
1971	71.1	68.3	75.8	61.6	69.7
1972[2]	71.1	68.3	75.9	61.5	69.9
1973	71.3	68.4	76.1	61 9	70.1
1974	71.9	68.9	76.6	62 9	71.2
1975	72.5	69.4	77.2	63.6	72.3
1976	72.8	69.7	77.3	64.1	72.6
At 20 years		70.0	77.7	64.6	73.1
1900–1902[1]	42.8	42.2	43.8	35.1	36.9
1950	51.3	49.6	54.7	43.7	46.9
1960	52.4	50.1	56.2	45.5	49.9
1970	53.1	50.3	57.4	44.7	52.2
1971	53.3	50.5	57.5	44.9	52.3
1972[2]	53.3	50.4	57.5	44.6	52.5
1973	53.4	50.5	57.7	44.9	52.6
1974	53.9	51.0	58.1	45.7	53.6
1975	54.4	51.4	58.6	46.3	54.7
1976	54.6	51.6	58.7	46.8	54.9
At 65 years					
1900–1902[1]	11.9	11.5	12.2	10.4	11.4
1950	13.9	12 8	15.1	12.5	14.5
1960	14.3	12.9	15.9	12.7	15.2
1970	15.2	13.1	17.1	13 3	16.4
1971	15.2	13.2	17.2	13.2	16.3
1972[2]	15.2	13.1	17.1	13.1	16.3
1973	15.3	13.2	17.3	13.1	16.2
1974	15.2	13 4	17.6	13.4	16.8
1975	16.0	13.7	18.1	13.7	17.5
1976	16.0	13.7	18.1	13.8	17.6

[1] Death registration areas only. The death registration areas increased in number from 10 States and the District of Columbia in 1900 to the entire coterminous United States in 1933.

[2] Data are based on a 50-percent sample of deaths.

SOURCES: National Center for Health Statistics: *Vital Statistics of the United States,* Vol. II, for data years 1900–1973. Washington. U.S. Government Printing Office; for data years 1974–1976, Public Health Service, DHEW, Hyattsville, Md. To be published.

Table 24. Life expectancy at birth and at 65 years of age, according to sex: Selected countries, selected years 1969–76

(Data are based on reporting by countries)

Country	Year	Life expectancy				Year	Life expectancy			
		At birth		At 65 years			At birth		At 65 years	
		Male	Female	Male	Female		Male	Female	Male	Female
		Remaining number of years					Remaining number of years			
Canada	1970	69.3	76.2	13.7	17.4	1974	69.6	77.1	13.8	18.0
United States	[1]1969–71	67.0	74.6	13.0	16.8	1976	69.0	76.7	13.7	18.0
Sweden	1970	72.3	77.4	14.4	17.2	1976	72.2	78.1	14.0	17.5
England and Wales	1970	68.8	75.2	12.0	16.0	1976	69.7	75.8	12.3	16.3
Netherlands	1970	70.9	76.6	13.6	16.6	1976	71.6	78.1	13.6	17.6
German Democratic Republic	1970	68.9	74.2	12.9	15.4	1976	68.9	74.5	12.1	14.8
German Federal Republic	1970	67.3	73.6	11.9	15.0	1975	68.1	74.7	12.2	15.7
France	1970	69.1	76.7	13.4	17.4	1974	69.5	77.6	13.6	17.8
Switzerland	[1]1968–73	70.3	76.2	13.3	16.3	1976	71.7	78.3	14.0	17.7
Italy	1970	68.5	74.6	13.0	16.1	1974	69.9	76.1	13.6	16.7
Israel[2]	1970	69.9	73.4	13.5	14.5	1975	71.0	74.7	14.0	15.5
Japan	1970	69.5	74.9	12.7	15.6	1976	72.3	77.6	14.1	17.0
Australia	1970	67.4	74.2	11.9	15.7	1975	69.3	76.4	13.1	17.1

[1] Average for the period.

[2] Jewish population only.

NOTE: Countries are grouped by continent.

SOURCES: World Health Organization: *World Health Statistics, 1970.* Vol. 1. Geneva. World Health Organization, 1973; *1978.* Vol. 1. Geneva. World Health Organization. To be published; United Nations: *Demographic Yearbook 1976.* Pub. No. ST/ESA/STAT/SER.R/4. New York. United Nations, 1977; National Center for Health Statistics: *U.S. Decennial Life Tables for 1969–1971,* Vol. 1, No. 1. DHEW Pub. No. (HRA) 75–1150. Health Resources Administration. Washington. U.S. Government Printing Office, May 1975; Final mortality statistics, 1976. *Monthly Vital Statistics Report,* Vol. 26, No. 12, supplement 2. DHEW Pub. No. (PHS) 78–1120. Public Health Service. Washington. U.S. Government Printing Office, Mar. 30, 1978.

Table 25. Infant, late fetal, and perinatal mortality rates and late fetal and perinatal deaths, according to race: United States, selected years 1950–76

(Data are based on the national vital registration system)

Race and year	Infant mortality rate[1]				Late fetal mortality[2]		Perinatal mortality[3]	
	Total	Neonatal		Postneonatal	Number of deaths	Rate	Number of deaths	Rate
		Under 28 days	Under 7 days					
Total	Number of deaths per 1,000 live births							
1950	29 2	20.5	17.8	8 7	53,806	14.9	117,223	32.5
1955	26.4	19.1	17.0	7 3	52,940	12.9	121,594	29.7
1960	26.0	18.7	16.7	7 3	51,984	12.1	123,109	28.6
1965	24.7	17.7	15 9	7 0	45,476	11.9	105,154	27.6
1970	20.0	15 1	13.6	4.9	35,791	9.5	86,612	23.0
1971	19.1	14.2	12 8	4.9	32,294	9.0	77,867	21.7
1972[4]	18.5	13.6	12 1	4.8	30,247	9.2	69,819	21 2
1973	17.7	13.0	11 4	4.8	27,602	8.7	63,461	20.1
1974	16.7	12 3	10 7	4.4	26,547	8.3	60,282	18.9
1975	16.1	11.6	10.0	4.5	24,801	7.8	56,197	17.7
1976	15.2	10 9	9.3	4.3	23,911	7.5	53,408	16.7
White								
1950	26.8	19.4	17 1	7 4	41,337	13.3	93,592	30.1
1955	23.6	17 7	15 9	5.9	40,630	11.6	95,770	27.3
1960	22 9	17.2	15.6	5 7	39,165	10 8	95,262	26.2
1965	21.5	16.1	14 6	5 4	33,234	10 5	78,840	25.0
1970	17.8	13 8	12 5	4 0	26,782	8.6	65,370	21.1
1971	17.1	13.0	11 8	4.0	23,929	8.1	58,397	19.8
1972[4]	16 4	12 4	11 1	4 0	22,299	8.3	51,713	19.3
1973	15.8	11 8	10.5	3.9	20,387	7.9	47,090	18.3
1974	14.8	11 1	9.7	3 7	19,876	7.7	44,944	17.3
1975	14.2	10.4	9.0	3.8	18,340	7.1	41,220	16.0
1976	13.3	9.7	8.2	3.6	17,822	6.9	38,969	15.1

All other								
1950	44.5	27.5	22.8	16.9	12,472	24.8	23,634	47.0
1955	42.8	27.2	22.9	15.6	12,323	20.5	25,837	43.0
1960	43.2	26.9	22.9	16.4	12,838	19.2	27,866	41.6
1965	40.3	25.4	22.1	14.9	12,222	18.8	26,294	40.5
1970	30.9	21.4	19.1	9.5	8,993	13.9	21,226	32.7
1971	28.5	19.6	17.5	8.9	8,359	13.0	19,464	30.2
1972[4]	27.7	19.2	16.8	8.5	7,945	13.0	18,103	29.6
1973	26.2	17.9	15.6	8.3	7,208	12.2	16,364	27.6
1974	24.9	17.2	14.8	7.7	6,664	11.3	15,331	25.9
1975	24.2	16.8	14.4	7.5	6,467	10.8	14,983	25.0
1976	23.5	16.3	13.9	7.2	6,099	10.1	14,449	23.8
Black:								
1950	43.9	27.8	23.0	16.1	---	---	---	---
1955	43.1	27.8	23.5	15.3	---	---	---	---
1960	44.3	27.8	23.7	16.5	---	---	---	---
1965	41.7	26.5	23.1	15.2	---	---	---	---
1970	32.6	22.8	20.3	9.9	---	---	---	---
1971	30.3	21.0	18.7	9.4	---	---	---	---
1972[4]	29.6	20.7	18.1	8.9	---	---	---	---
1973	28.1	19.3	16.9	8.8	---	---	---	---
1974	26.8	18.7	16.1	8.1	---	---	---	---
1975	26.2	18.3	15.7	7.9	---	---	---	---
1976	25.5	17.9	15.3	7.6	---	---	---	---

[1] Infant mortality rate is the number of deaths to infants under 1 year of age per 1,000 live births. Neonatal deaths are deaths within 28 days of birth and postneonatal deaths are from 28 days to 365 days.

[2] Late fetal deaths are fetal deaths of 28 weeks or more gestation. The rate is the number of late fetal deaths per 1,000 live births and late fetal deaths.

[3] Perinatal deaths are late fetal deaths plus infant deaths within 7 days of birth. The rate is the number of perinatal deaths per 1,000 live births and late fetal deaths.

[4] Infant deaths are based on a 50-percent sample of deaths.

SOURCES: National Center for Heath Statistics: *Vital Statistics of the United States,* Vol. II, for data years 1950–1973. Washington. U.S. Government Printing Office; for 1974–1976, Public Health Service, DHEW, Hyattsville, Md. To be published; Data computed by the Division of Analysis from data compiled by the Division of Vital Statistics.

Table 26. Infant mortality rates and perinatal mortality ratios: Selected countries, selected years 1971–76

(Data are based on national vital registration systems)

Country	Infant mortality rate		Average annual rate of change	Perinatal mortality ratio[2]		Average annual rate of change
	1971	1976[1]		1971	1975[3]	
	Infant deaths per 1,000 live births			Perinatal deaths per 1,000 live births		
Canada	17.6	14.3	−5.1	20.3	16.9	−5.9
United States	19.1	15.2	−4.5	21.9	17.9	−4.9
Sweden	11.1	8.7	−4.8	15.7	11.3	−7.9
England and Wales	17.5	14.0	−4.4	22.5	20.6	−2.9
Netherlands	12.1	10.5	−2.8	17.8	14.0	−5.8
German Democratic Republic	18.0	14.1	−4.8	20.6	17.6	−3.9
German Federal Republic	23.3	17.4	−5.7	25.6	19.4	−6.7
France	17.1	12.5	−6.1	19.8	19.5	−0.5
Switzerland	14.4	10.5	−6.1	17.2	13.5	−5.9
Italy	28.5	19.1	−7.7	30.8	24.1	−5.9
Israel	20.4	22.9	2.3	22.1	20.9	−1.4
Japan	12.4	9.3	−5.6	20.3	16.0	−5.8
Australia	17 3	14.3	−4.6	---	19.2	---

[1] Data for Canada and Australia refer to 1975.

[2] Fetal deaths of 28 weeks or more gestation plus infant deaths within 7 days.

[3] Data for Canada, England and Wales, and France refer to 1974

NOTE: Countries are grouped by continent.

SOURCES: United Nations: *Demographic Yearbook 1974 and 1976.* Pub. Nos. ST/ESA/STAT/R.3 and ST/ESA/STAT/SER.R/4. New York. United Nations, 1975 and 1977; World Health Organization: *World Health Statistics, 1977,* Vol. 1. Geneva. World Health Organization, 1977; World Health Organization: Selected data.

Table 27. Age-adjusted death rates and deaths from diseases of the heart and malignant neoplasms as a percent of all deaths: United States, selected years 1950–76

(Data are based on the national vital registration system)

Cause of death	Year										
	1950	1955	1960	1965	1970	1971	1972[1]	1973	1974	1975	1976
	Number of deaths per 100,000 population										
All causes	841.5	764.6	760.9	739.0	714.3	699.9	701.8	692.9	666.2	638.3	627.5
Diseases of the heart	307.6	287.5	286.2	273.9	253.6	250.1	249.3	244.4	232.7	220.5	216.7
Ischemic heart disease	---	---	---	---	228.1	225.1	223.9	218.9	207.7	196.1	191.6
Malignant neoplasms	125.4	125.8	125.8	127.0	129.9	129.7	130.7	130.7	131.8	130.9	132.3
Cancer of the respiratory system	12.8	16.0	19.2	23.0	28.4	29.1	30.3	30.8	31.8	32.5	33.5
All other causes	408.5	351.3	348.9	338.1	330.8	320.1	321.8	317.8	301.7	286.9	278.5
	Percent distribution										
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Diseases of the heart	36.6	37.6	37.6	37.1	35.5	35.7	35.5	35.3	34.9	34.5	34.5
Ischemic heart disease	---	---	---	---	31.9	32.2	31.9	31.6	31.2	30.7	30.5
Malignant neoplasms	14.9	16.5	16.5	17.2	18.2	18.5	18.6	18.9	19.8	20.5	21.1
Cancer of the respiratory system	1.5	2.1	2.5	3.1	4.0	4.2	4.3	4.4	4.8	5.1	5.3
All other causes	48.5	45.9	45.9	45.8	46.3	45.7	45.9	45.9	45.3	44.9	44.4

[1] Based on a 50-percent sample of deaths.

NOTES: Age-adjusted rates computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. Adjustment based on 11 age groups. Percent distribution is based on distribution of age-adjusted rates.

SOURCES: National Center for Health Statistics: *Vital Statistics of the United States,* Vol. II, for data years 1950–1960 and 1970–1973, Washington. U.S. Government Printing Office; for data year 1965, unpublished data from the Division of Vital Statistics; for data years 1974–1976, Final mortality statistics. *Monthly Vital Statistics Report.* DHEW Pub. Nos. (HRA) 76–1120, (HRA) 77–1120, and (PHS) 78–1120. Health Resources Administration and Public Health Service. Washington. U.S. Government Printing Office, Feb. 3, 1976, Feb. 11, 1977, and Mar. 30, 1978.

Table 28. Death rates due to diseases of the heart, according to race, sex, and age: United States, selected years 1950–76

(Data are based on the national vital registration system)

Race, sex, and age	Year										
	1950	1955	1960	1965	1970	1971	1972[1]	1973	1974	1975	1976
Total[2]	Number of deaths per 100,000 resident population										
All ages	356.8	356.5	369.0	368.0	362.0	360.5	363.0	360.8	349.2	336.2	337.2
Under 25 years	5.0	3.2	2.4	2.1	2.2	2 4	2.5	2.6	2.5	2.4	2.5
Under 1 year	4.1	7.4	6.6	9.8	13 1	15 4	20.2	23.0	22.0	20.3	23.1
1–24 years	5.0	3.0	2.1	1 7	1 8	1 9	1.9	2.0	1.9	1.8	1.8
25–29 years	14.8	11.7	9.9	8.6	7 0	6 8	6.3	6.5	5.6	5.6	5.6
30–34 years	27.5	22.4	20.9	19 5	16 6	15 3	14.9	14.3	14.1	12.4	12.1
35–39 years	57.3	49.1	47.7	46.0	40.8	40.3	38.0	36.8	33.1	32.6	30.1
40–44 years	122 5	107 7	103.5	98 8	90.7	88 3	86.4	83.6	78.3	76.0	72.8
45–49 years	228.7	200.8	197.6	188.4	174 4	170 3	168.9	165.7	159.1	147.3	145.7
50–54 years	397.5	362.0	355 8	340.4	308 3	298.1	292.1	283.8	271.3	261.9	252.5
55–59 years	642.2	584.1	571 6	535.7	514 3	503 2	493.0	493.2	459.2	437.0	423.2
60–64 years	1,007.9	915.2	934.2	905.6	811.9	796.8	800.2	774.3	738.0	710.3	701.7
65 years and over	2,844 5	2,772.7	2,823 0	2,778.7	2,683 3	2,673.2	2,682.3	2,643.3	2,537.9	2,403.9	2,393.5
65–69 years	1,494.6	1,427.9	1,412.6	1,348.1	1,263.8	1,211.5	1,208.3	1,161.2	1,109.6	1,049 5	1,021.6
70–74 years	2,348.1	2,168.5	2,173.5	1,999.9	1,936.4	1,899.7	1,919.6	1,869.6	1,800.2	1,708.2	1,658.6
75–79 years	3,683.4	3,462.1	3,358.8	3,242 5	3,052.2	3,018.5	3,049.8	3,010.2	2,849.3	2,716.1	2,707.6
80–84 years	5,476.1	5,421.5	5,501.5	5,103.6	4,744.1	4,636.9	4,601.5	4,523.1	4,332.6	4,133.8	4,090.6
85 years and over	9,151.0	8,917.2	9,317.8	9,538.4	7,891.3	8,468.9	8,386.9	8,382.1	7,983.1	7,282.0	7,384.3
White male											
All ages	434 2	438 5	454.6	450.8	438.3	433.9	434.1	430.9	415.5	401.1	399.4
Under 25 years	4.2	2.8	2.1	1.8	2.2	2.2	2.3	2 4	2.4	2.3	2.5
Under 1 year	4.6	6.7	6.9	8 9	12.0	12 1	14 7	18.4	19.1	19.3	22.4
1–24 years	4.2	2.6	1.9	1 5	1 8	1.8	1.9	1.9	1.9	1.8	1.8
25–29 years	14.4	12.3	9.5	8 2	6 8	7.0	6.2	6.6	5.8	6 1	6.0
30–34 years	29.0	26.6	24.9	22 6	18 8	18.3	17.3	16.5	16.1	14.4	14.9
35–39 years	68.4	66.7	66.0	62.2	54.8	54.7	49.7	48.8	45.2	43 4	41.3
40–44 years	160.4	152.4	151.7	144.8	131.3	129.5	126.1	123.5	115.3	111.6	109.2
45–49 years	313.3	291.6	300.4	287.1	266.0	260 0	259.3	254.1	246.7	228.5	223.2
50–54 years	544.6	523.9	540.4	520.3	474.2	461.1	453.5	436.9	420.1	405.9	390.1
55–59 years	878.6	836.8	842 0	812.8	784.3	769.2	750.6	754.8	703.3	668.9	642.7
60–64 years	1,324.3	1,262.6	1,311.6	1,314.8	1,209.9	1,190.2	1,204.1	1,161.3	1,103.5	1,067.4	1,049.0
65 years and over	3,302.2	3,251.2	3,363 2	3,401.3	3,316.2	3,302.4	3,302.8	3,267.0	3,132.9	2,986.0	2,963.2
65–69 years	1,939.7	1,889.6	1,928.7	1,903.1	1,828.8	1,767.8	1,760.4	1,714.4	1,650.1	1,567.9	1,537.2
70–74 years	2,852.9	2,724.2	2,788.8	2,679 5	2,641.4	2,598.5	2,629.2	2,569.4	2,472.9	2,367.3	2,317.7
75–79 years	4,248.7	4,090.3	4,099.6	4,082.8	3,939.0	3,925.8	3,980.7	3,946.9	3,759.3	3,600.1	3,603.3
80–84 years	6,186.6	6,258.3	6,340.5	6,137.4	5,828.7	5,729.9	5,707.0	5,703.1	5,437.0	5,283.2	5,219.4
85 years and over	9,959.6	9,316.0	10,135.8	10,657.3	8,818.0	9,786.5	9,575.7	9,664.1	9,269.2	8,550.3	8,692.9

White female				
All ages	290.5	293.0	306.5	310.7
Under 25 years	4.2	2.4	1.7	1.5
Under 1 year	2.9	5.6	4.3	7.4
1–24 years	4.3	2.3	1.5	1.3
25–29 years	10.4	7.3	6.2	5.0
30–34 years	17.0	11.6	10.0	9.2
35–39 years	29.8	20.8	18.5	17.9
40–44 years	56.3	42.3	39.4	34.5
45–49 years	103.8	78.7	72.7	70.9
50–54 years	184.2	149.8	137.9	134.0
55–59 years	331.4	282.1	263.4	239.1
60–64 years	613.9	522.9	518.9	468.1
65 years and over	2,503.1	2,430.0	2,432.8	2,367.9
65–69 years	1,055.9	975.3	914.7	852.3
70–74 years	1,891.2	1,682.6	1,635.6	1,453.1
75–79 years	3,237.2	3,015.1	2,848.9	2,672.8
80–84 years	5,166.9	5,041.9	5,062.0	4,591.4
85 years and over	9,085.7	9,155.9	9,280.8	9,333.2
All other male				
All ages	342.0	319.4	320.5	318.4
Under 25 years	9.7	6.8	5.3	4.9
Under 1 year	5.9	12.6	13.1	20.4
1–24 years	9.9	6.5	4.9	4.1
25–29 years	31.2	28.8	26.2	27.4
30–34 years	71.9	51.1	53.7	55.1
35–39 years	129.0	106.7	112.5	118.7
40–44 years	261.8	232.3	211.3	233.6
45–49 years	428.9	414.1	365.6	374.5
50–54 years	813.9	676.2	631.0	627.2
55–59 years	1,196.4	999.4	912.1	876.2
60–64 years	1,663.9	1,522.6	1,540.7	1,499.1
65 years and over	2,637.9	2,562.6	2,752.1	2,715.7
65–69 years	1,856.9	1,811.7	1,983.3	1,864.3
70–74 years	2,518.1	2,467.6	2,562.5	2,429.8
75–79 years	3,578.1	3,066.3	3,098.6	3,277.0
80–84 years	3,845.9	4,064.3	4,489.1	3,973.0
85 years and over	6,152.6	5,720.8	6,128.6	6,929.4

See footnotes at end of table.

313.8	316.1	321.0	319.4	312.3	301.3	305.5
1.4	1.6	1.7	1.8	1.7	1.7	1.6
7.0	9.9	14.6	14.9	14.6	16.0	15.5
1.2	1.3	1.2	1.3	1.3	1.2	1.2
3.6	3.5	3.5	3.5	2.8	2.9	2.8
7.7	6.4	6.8	6.7	6.4	5.7	5.1
15.3	14.7	14.8	14.8	12.7	12.1	11.4
31.7	31.8	31.0	30.0	28.4	27.8	25.3
63.3	64.1	58.2	58.6	55.2	51.8	53.1
121.7	116.9	110.4	110.5	104.4	103.4	97.1
227.7	225.4	217.0	217.0	201.5	194.0	189.9
419.4	414.9	404.1	392.7	376.8	360.0	357.6
2,283.9	2,280.1	2,301.1	2,253.7	2,174.3	2,053.1	2,056.1
763.5	725.6	730.1	684.5	653.5	619.3	597.7
1,384.7	1,341.7	1,356.9	1,285.8	1,236.8	1,165.4	1,121.1
2,473.6	2,432.4	2,461.4	2,418.9	2,279.5	2,152.0	2,120.3
4,221.5	4,141.8	4,107.4	3,997.4	3,867.8	3,644.7	3,616.3
7,839.9	8,215.1	8,222.6	8,156.1	7,778.6	7,105.3	7,244.5
310.2	303.9	308.4	305.9	291.0	277.1	276.5
5.2	5.9	6.7	6.6	5.2	4.9	5.5
32.2	38.4	53.3	63.4	47.2	35.4	44.6
4.1	4.5	4.8	4.4	3.7	3.8	4.0
26.5	20.6	20.7	21.9	20.1	19.1	18.0
49.9	46.1	47.4	42.8	43.7	41.7	37.6
112.3	109.7	105.3	98.6	88.1	96.3	88.5
230.2	203.4	203.2	185.6	173.6	178.2	163.6
376.1	353.2	380.1	361.9	330.4	301.6	298.3
585.0	560.3	575.7	561.1	533.5	507.9	510.8
891.0	882.4	891.0	888.5	836.1	758.8	767.5
1,267.5	1,232.7	1,255.0	1,244.4	1,188.9	1,126.5	1,168.7
2,680.1	2,673.8	2,702.4	2,700.5	2,569.5	2,431.5	2,382.0
1,816.9	1,692.3	1,726.7	1,662.9	1,565.9	1,446.6	1,416.7
2,540.9	2,594.0	2,582.2	2,686.1	2,638.8	2,437.6	2,341.6
3,359.3	3,317.1	3,415.2	3,352.7	3,214.4	3,152.2	3,171.5
3,948.9	3,887.7	3,890.9	3,869.5	3,519.0	3,589.5	3,478.9
4,983.6	5,808.2	5,725.5	5,826.4	5,501.8	4,917.2	4,826.5

Table 28. Death rates due to diseases of the heart, according to race, sex, and age: United States, selected years 1950–76—Continued

(Data are based on the national vital registration system)

Race, sex, and age	Year										
	1950	1955	1960	1965	1970	1971	1972[1]	1973	1974	1975	1976
Black male:	Number of deaths per 100,000 resident population										
All ages	348.4	---	330.6	331.7	330.3	319.9	326.1	324.4	308 6	296.1	296.9
Under 25 years	9 8	---	5.3	5.1	5 4	6.0	6.9	6 9	5.4	5.2	5.7
Under 1 year	---	---	13.9	21.3	33.5	37 5	55 8	68 4	46.9	37.2	46.6
1–24 years	---	---	4.8	4.3	4.3	4 7	5 0	4 6	3.9	4.0	4.3
25–29 years	32.5	---	28.1	28.4	28.0	22.8	22.0	23.6	22.0	21.2	20.1
30–34 years	73 8	---	57.7	59.7	57.4	52.5	53.4	48.8	49 3	47.9	43.6
35–39 years	133 7	---	120.0	127.7	124.5	121.2	113.3	107.1	95.2	104.2	97.6
40–44 years	271.4	---	222.1	250.1	253.4	220.2	220.6	203.3	190 7	194.3	180.6
45–49 years	442.3	---	386 0	397.3	412.8	381.3	413.6	391 1	358.6	329.7	327.8
50–54 years	841.2	---	667.0	661.6	626.1	593.5	621 1	600 8	569.5	547.8	553.8
55–59 years	1,225.8	---	973.2	931.4	954.3	930.0	947.7	946.4	888.2	804.5	826.0
60–64 years	1,717.3	---	1,593.9	1,613.1	1,354.6	1,307 4	1,328.2	1,318 8	1,248.5	1,189.7	1,238.0
65 years and over	2,680.8	---	2,798.4	2,790.4	2,836.7	2,802.5	2,842.2	2,852.2	2,726.3	2,580.9	2,527.4
65–69 years	1,894.9	---	2,030.4	1,937.9	1,934 9	1,782.0	1,810.4	1,745.0	1,631.1	1,509.7	1,464.7
70–74 years	2,570.3	---	2,661.2	2,547.8	2,694 5	2,733.9	2,752.7	2,908.0	2,866.0	2,636.9	2,539.7
75–79 years		---	3,146.3	3,422.8	3,504,9	3,437.1	3,584.6	3,582 5	3,500 0	3,482.8	3,565.5
80–84 years	4,107 9	---	4,409.5	4,078.6	4,305 1	4,147 6	4,215.2	4,122.5	3,798.6	3,826.7	3,721.8
85 years and over		---	6,037.9	7,113.3	5,367.6	6,033 3	6,102.3	6,146 7	5,868.8	5,296.2	5,182.1
All other female											
All ages	283 0	256 8	255.5	248.6	241 0	236.7	237.6	239 7	227.9	214.7	215.9
Under 25 years	11 4	7 5	5.3	4.6	4 7	4 9	4.6	4 9	4 8	3.9	4.1
Under 1 year	6 4	16 3	11.7	17 4	31 4	39.5	44.7	45 8	48.4	31.3	42.6
1–24 years	11 7	6.9	4.9	3 9	3.5	3.5	3.1	3 4	3.3	2.9	2.7
25–29 years	37.3	26.7	23.1	19.8	14.2	15.9	14.2	13.0	9.8	7.6	9.7
30–34 years	66 1	51.1	43.8	36 7	31 6	27.5	24.1	24 6	25.1	17.5	17.6
35–39 years	129 1	91.2	83.2	73 5	59.6	58.6	59.3	52.9	44.6	45.2	32.7
40–44 years	245.5	177.2	158.2	147 8	118 8	112.4	107.4	99.7	91.5	80.0	76.1
45–49 years	397 6	319.1	257.9	227.0	203 2	188 1	188.2	179.2	169.7	146.3	145.5
50–54 years	667 9	542 7	455.1	390.1	342.0	318 8	308.5	297.4	276.5	247.5	247.6
55–59 years	998.8	789.2	712.6	592 7	535 5	487.8	523.2	493.8	455.1	436.3	410.1
60–64 years	1,421 7	1,143.2	1,170.6	1,100.9	828 7	770.5	804.3	764 0	718.1	686.7	662.9
65 years and over	2,158 2	2,075 8	2,197.2	2,090.8	2,094.4	2,094.6	2,070.9	2,117.5	1,999.6	1,864.5	1,866.4
65–69 years	1,366.7	1,394.6	1,393.3	1,251 3	1,226.8	1,168.1	1,112.9	1,073.1	977.6	892.9	833.7
70–74 years	2,160.0	1,879.6	2,006.4	1,765.9	1,836 4	1,894.7	1,930.5	2,081 9	1,980.4	1,867.0	1,782.3
75–79 years	3,059.7	2,712.3	2,507.5	2,503.7	2,492.6	2,492.2	2,400.0	2,483.7	2,368.4	2,382.9	2,597 9
80–84 years	2,955.0	3,045.1	3,730.2	3,570.1	3,353 5	3,105 8	3,133.3	3,034.2	2,870.4	2,638.9	2,698.5
85 years and over	5,350.0	4,811 8	5,564.1	5,912.2	4,784.7	5,159.2	5,029.3	5,205.7	4,882.5	4,181.8	4,160.3

Black female:											
All ages	[1]289.9	---	268.5	263.8	261.0	253.5	256.1	259.4	247.6	235.7	237.4
Under 25 years	11.4	---	5.4	4.8	4.8	5.0	5.0	5.2	5.0	4.2	4.2
Under 1 year	---	---	12.0	17.9	31.3	41.3	48.3	49.1	47.0	34.8	44.7
1–24 years	---	---	5.0	4.1	3.7	3.6	3.4	3.6	3.5	3.1	2.9
25–29 years	38.3	---	24.4	20.3	16.0	17.5	15.3	13.7	11.2	8.9	10.7
30–34 years	67.4	---	47.0	40.3	34.5	29.9	25.4	26.4	28.1	20.1	20.9
35–39 years	131.6	---	88.5	79.3	66.7	63.2	64.7	59.0	48.5	49.5	36.0
40–44 years	249.5	---	166.8	156.6	133.0	124.3	119.8	112.5	102.6	90.8	84.8
45–49 years	403.0	---	269.1	241.3	223.2	204.2	203.9	197.7	189.1	164.9	166.1
50–54 years	682.0	---	471.8	409.4	367.8	340.5	332.3	322.5	301.4	273.1	275.4
55–59 years	1,022.7	---	754.8	619.9	567.6	517.0	550.2	525.7	485.2	471.2	443.1
60–64 years	1,457.0	---	1,211.1	1,165.4	878.2	804.7	839.9	800.4	756.6	726.8	702.3
65 years and over	2,172.9	---	2,234.7	2,151.9	2,199.4	2,180.6	2,169.8	2,219.6	2,102.8	1,970.1	1,969.3
65–69 years	1,378.8	---	1,430.6	1,307.0	1,291.6	1,216.6	1,162.7	1,120.7	983.0	924.3	859.2
70–74 years	2,188.3	---	2,055.2	1,816.2	1,947.6	2,002.9	2,056.2	2,239.5	2,145.9	2,029.6	1,935.2
75–79 years	3,499.3	---	2,545.0	2,585.8	2,625.8	2,615.8	2,551.9	2,659.5	2,564.1	2,632.5	2,869.9
80–84 years		---	3,743.1	3,632.9	3,536.8	3,178.9	3,256.9	3,177.1	3,025.7	2,798.3	2,884.4
85 years and over		---	5,650.0	6,030.4	5,003.8	5,363.8	5,273.0	5,403.8	5,130.7	4,398.0	4,344.0

[1] Based on a 50-percent sample of deaths.
[2] Includes all races and both sexes.

NOTE: The ICDA revisions and code numbers are for 1950 and 1955, Sixth Revision, Nos. 400–402, 410–443; for 1960 and 1965, Seventh Revision, Nos.400–402, 410–443; and for 1970–76, Eighth Revision, Nos. 390–398, 402, 404, 410–414, 420–429.

SOURCES: National Center for Health Statistics: *Vital Statistics of the United States,* Vol. II, for data years 1950–1973, Washington. U.S. Government Printing Office; for data years 1974–1976, Public Health Service, DHEW, Hyattsville, Md. To be published; U.S. Bureau of the Census: Population estimates and projections. *Current Population Reports.* Series P–25, Nos. 310, 519, 529, and 643. Washington. U.S. Government Printing Office, June 1965, Apr. 1974, Sept. 1974, and Jan. 1977; General population characteristics, United States summary, 1960 and 1970. *U.S. Census of Population.* Final reports PC(1)–B1; *1950 Nonwhite Population by Race,* Special report P-E No. 3B. Washington. U.S. Government Printing Office, 1961, 1972, and 1951; National Center for Health Statistics: Data computed by the Division of Analysis from data compiled by the Division of Vital Statistics.

Table 29. Death rates due to ischemic heart disease, according to race, sex, and age: United States, 1968–76

(Data are based on the national vital registration system)

Race, sex, and age	Year								
	1968	1969	1970	1971	1972[1]	1973	1974	1975	1976
Total[2]	Number of deaths per 100,000 resident population								
All ages	338.4	332.6	328.1	327.0	328.7	326.0	314.5	301.7	301.0
Under 25 years	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.2
25–29 years	2.8	2.9	3.1	2.9	2.5	2.4	2.0	2.0	2.1
30–34 years	10.4	10.1	10.0	9.9	8 4	8.3	8.3	7.4	7.4
35–39 years	32.4	32.1	30.4	30.2	28 2	27.6	24.1	23.8	22.0
40–44 years	79.3	76.6	73.7	72.6	71.0	68.4	64.4	62.3	59.8
45–49 years	158.3	153.2	148.6	146.0	144.6	141.6	136.1	126.3	123.2
50–54 years	283.8	275.7	269.6	262.4	256.2	248.7	236.7	228.6	218.6
55–59 years	479.2	463.2	457.9	448.0	436.1	438.2	406.8	385.5	370.4
60–64 years	781.5	744.4	733.1	718.2	719.6	694.8	660.1	633.8	622.1
65 years and over	2,573.1	2,527.1	2,470.4	2,461.2	2,467.1	2,424.1	2,319.1	2,186.7	2,166.2
65–69 years	1,213.6	1,178.0	1,151.9	1,105.9	1,098.3	1,053.3	1,001.9	944.5	912.8
70–74 years	1,862.8	1,813.2	1,785.3	1,749.5	1,764.7	1,713.7	1,640.2	1,547.5	1,495.1
75–79 years	2,932.7	2,835.6	2,824.2	2,787 9	2,817.7	2,768.7	2,612.9	2,481.6	2,458.1
80–84 years	4,581.0	4,519.8	4,383.5	4,292 5	4,254.1	4,168.4	3,978.2	3,777.4	3,716.2
85 years and over	8,483.0	8,284.5	7,249.4	7,780 4	7,712.0	7,692.6	7,315.5	6,640.0	6,715.0
White male									
All ages	419.3	411 9	404.9	400.6	400.1	396.1	380.3	366.3	362.5
Under 25 years	0.3	0.3	0.3	0.4	0 3	0.3	0.3	0.3	0.2
25–29 years	3.4	3.3	3.8	3.5	3.2	3.0	2.5	2.8	2.8
30–34 years	13.7	13.3	13.3	13 8	12.0	11.7	11.3	10.6	10.6
35–39 years	48.7	48.5	46.0	45.7	41.4	40.9	37.3	35.8	34.0
40–44 years	123.4	120.0	115.6	114.3	111 5	108.9	101.7	99.1	96.6
45–49 years	255.0	248.7	240.2	235.9	234.2	229.0	221.9	205.4	199.3
50–54 years	454.1	442.5	433.0	421.9	413.8	397.6	380.9	368.8	350.7
55–59 years	746.5	731.9	722.2	708.1	686.6	692.3	641.7	608.5	582.2
60–64 years	1,187.1	1,144.2	1,120.7	1,099.7	1,110.1	1,068.3	1,012.1	977.6	952.0
65 years and over	3,204.0	3,153.9	3,090.3	3,074.4	3,072.5	3,029.8	2,892.3	2,747.3	2,712.0
65–69 years	1,760.1	1,723.8	1,698.5	1,644 6	1,632.2	1,586.0	1,518.6	1,441.3	1,402.6
70–74 years	2,582 9	2,524.2	2,468.7	2,429.6	2,456 6	2,390.5	2,286.5	2,179.7	2,121.6
75–79 years	3,792.5	3,686.6	3,686.6	3,662.5	3,717.4	3,666.9	3,483.4	3,323.3	3,307.0
80–84 years	5,597.4	5,560.1	5,436.4	5,344.9	5,308.2	5,297.0	5,024.9	4,859.0	4,778.4
85 years and over	9,598.7	9,443.1	8,164.2	9,028.4	8,851.6	8,920.7	8,527.3	7,841.9	7,954.4

White female			
All ages	286.6	283.7	282.5
Under 25 years	0.2	0.2	0.1
25–29 years	1.1	1.0	1.2
30–34 years	3.4	3.0	3.5
35–39 years	8.7	9.2	8.4
40–44 years	23.3	22.4	21.1
45–49 years	48.6	46.0	45.8
50–54 years	99.3	95.8	96.1
55–59 years	200.1	188.5	189.6
60–64 years	381.3	358.2	364.1
65 years and over	2,174.5	2,139.7	2,093.4
65–69 years	731.0	700.3	685.3
70–74 years	1,315.4	1,280.1	1,269.0
75–79 years	2,372.5	2,289.1	2,276.3
80–84 years	4,095.3	4,025.6	3,889.7
85 years and over	8,311.6	8,118.8	7,192.3
All other male			
All ages	278.8	269.5	261.1
Under 25 years	0.9	0.7	0.7
25–29 years	10.6	11.5	10.9
30–34 years	31.9	36.6	28.5
35–39 years	87.6	81.9	75.0
40–44 years	182.9	180.4	174.0
45–49 years	328.9	318.9	304.5
50–54 years	521.9	521.7	483.5
55–59 years	820.6	766.7	750.1
60–64 years	1,222.9	1,128.2	1,084.7
65 years and over	2,469.4	2,421.0	2,349.4
65–69 years	1,655.5	1,630.6	1,568.2
70–74 years	2,318.5	2,213.8	2,234.3
75–79 years	2,979.0	3,010.0	2,966.7
80–84 years	3,535.8	3,661.8	3,471.9
85 years and over	5,958.5	5,259.1	4,418.8

See footnotes at end of table.

285.1	289.4	287.3	280.5	269.2	272.0
0.2	0.2	0.2	0.1	0.1	0.1
1.2	0.8	1.1	0.7	0.6	0.8
3.0	2.7	3.0	2.9	2.3	2.1
8.6	8.8	8.9	7.3	7.1	6.3
21.8	21.3	20.1	19.0	18.8	17.5
47.2	43.4	43.7	40.9	38.9	39.5
93.2	88.0	87.8	82.5	81.7	76.5
187.5	178.9	181.0	168.9	161.6	155.8
360.5	350.5	339.1	325.3	308.9	306.9
2,092.4	2,110.1	2,060.8	1,983.2	1,863.6	1,858.0
650.6	651.9	609.4	578.5	546.5	522.5
1,227.8	1,237.4	1,169.2	1,118.6	1,046.5	1,004.2
2,239.3	2,265.4	2,218.6	2,085.3	1,963.3	1,922.0
3,826.6	3,796.9	3,681.7	3,549.0	3,331.1	3,284.9
7,553.2	7,564.6	7,486.0	7,143.4	6,484.7	6,596.1
256.6	257.8	255.8	244.0	229.9	228.3
0.9	0.9	0.7	0.3	0.5	0.3
9.5	7.0	7.6	7.3	6.5	6.1
29.4	23.7	22.7	23.2	20.9	20.9
77.1	72.1	66.9	57.0	61.1	59.7
156.7	151.9	140.1	134.4	135.2	122.8
284.8	302.3	288.2	267.8	245.4	234.8
471.4	481.5	468.0	443.9	421.5	422.9
742.7	751.3	749.7	700.2	633.8	637.4
1,061.9	1,066.3	1,063.7	1,006.7	950.4	985.6
2,336.8	2,351.7	2,344.0	2,238.8	2,086.8	2,034.8
1,460.8	1,472.7	1,422.2	1,349.4	1,223.3	1,200.8
2,246.8	2,254.5	2,344.0	2,289.0	2,096.3	1,985.5
2,929.5	3,013.6	2,922.1	2,806.1	2,712.3	2,723.6
3,458.9	3,392.2	3,372.0	3,120.2	3,117.4	2,984.4
5,110.2	5,023.5	5,090.6	4,831.6	4,245.3	4,176.5

Table 29. Death rates due to ischemic heart disease, according to race, sex, and age: United States, 1968–76—Continued

(Data are based on the national vital registration system)

Race, sex, and age	Year								
	1968	1969	1970	1971	1972[1]	1973	1974	1975	1976
	Number of deaths per 100,000 resident population								
Black male									
All ages	290.8	282 0	277.2	269.3	271.9	270.4	258.1	244.9	244.2
Under 25 years	0.8	0.7	0.7	0.9	1.0	0 7	0 3	0.6	0.4
25–29 years	11.8	12.9	11.7	10.6	7.6	8.5	8.2	7.4	7.0
30–34 years	35.4	39.9	32.7	33.6	26.8	25.8	26.1	23.9	23.6
35–39 years	94.0	89.1	83.3	85.2	76.9	73.0	61.2	65.3	65.5
40–44 years	196.5	192.6	191.3	168.9	164.8	152.5	147.9	147.8	135.5
45–49 years	348.8	341.2	333.0	305.7	328.3	310.0	290.8	267.6	257.7
50–54 years	548.8	552.6	516.0	498.7	520.5	499.6	473 8	453.7	456.5
55–59 years	864 7	813.9	803.3	780.4	800.0	796.7	740.9	669.2	684.8
60–64 years	1,302 5	1,198.2	1,157.8	1,125.2	1,125.4	1,123.4	1,055.5	1,000.8	1,041.3
65 years and over	2,560 5	2,518.4	2,479.5	2,442.2	2,464.1	2,468.3	2,368.2	2,207.8	2,150.3
65–69 years	1,737 4	1,711.4	1,664.3	1,533.1	1,534.9	1,488.0	1,402.2	1,275.4	1,235.8
70–74 years	2,397.3	2,301 6	2,364.8	2,360.4	2,398.9	2,531.0	2,478.7	2,253.5	2,142.9
75–79 years	3,039.8	3,106.4	3,085 7	3,027.6	3,155.6	3,114.9	3,044.2	2,986.2	3,047.9
80–84 years	3,777.2	3,913.8	3,778 5	3,674.6	3,651.5	3,581.7	3,581.7	3,318.7	3,193.6
85 years and over	6,302.9	5,602.7	4,743.7	5,309.5	5,344 2	5,348.9	5,131.3	4,558.5	4,464.3
All other female									
All ages	213.4	204.2	200.4	197.5	197.7	200 7	188.9	177.7	176.9
Under 25 years	0.4	0.5	0.4	0.5	0.2	0.4	0.4	0.2	0.2
25–29 years	3.8	6.0	4 3	4.5	4.6	3.3	2.1	2 2	2.2
30–34 years	17.9	14.0	15.7	12.9	9.4	9.4	11.6	8.6	8.3
35–39 years	40.5	39.2	38.3	34.8	34.9	33.2	23.3	26.5	17.6
40–44 years	97.5	86.1	79.8	78.1	76.8	69.8	65.9	52.9	49.8
45–49 years	166.3	154.3	149.1	140.4	140.9	134.1	126.6	111.6	104.5
50–54 years	287.7	270.0	265.3	253.4	238.0	241.2	219.6	192.7	194.7
55–59 years	474.9	447.0	433.3	393.8	421.2	395.8	367.0	349.2	320.1
60–64 years	809.3	745.3	703.6	643.1	674.4	642.3	597.1	570.1	541.7
65 years and over	1,943.5	1,869.7	1,830.0	1,836.7	1,810.6	1,855.0	1,730.9	1,606.6	1,595.6
65–69 years	1,198.1	1,142.4	1,055 3	1,011.4	958.5	922.8	831.1	749.8	698.4
70–74 years	1,602.4	1,559.7	1,590.2	1,655.1	1,661.8	1,821.2	1,715.4	1,592.7	1,509.4
75–79 years	2,326.3	2,157.7	2,205.6	2,181.4	2,101.8	2,182.6	2,051.7	2,070.2	2,237.4
80–84 years	3,100.0	2,975 8	2,949.1	2,749 5	2,800.0	2,660.8	2,513.6	2,302.3	2,332.8
85 years and over	5,096 7	4,930.7	4,227.9	4,582.9	4,461.0	4,633.0	4,251.5	3,662.7	3,590.9

Black female:									
All ages	227.4	218.8	217.0	211.6	213.0	217.3	205.4	195.2	194.5
Under 25 years	0.5	0.5	0.5	0.6	0.2	0.5	0.4	0.2	0.3
25–29 years	4.1	6.5	4.9	5.1	5.1	3.7	2.5	2.5	2.6
30–34 years	19.8	15.9	17.5	14.1	10.6	10.7	13.0	9.9	9.8
35–39 years	44.0	42.5	43.5	38.2	38.9	37.1	25.7	29.6	19.8
40–44 years	107.2	94.8	89.1	86.8	86.0	79.4	74.6	60.7	55.9
45–49 years	179.4	167.1	163.6	152.4	154.1	148.1	142.4	126.6	118.8
50–54 years	303.7	288.7	285.5	271.5	255.7	262.1	239.2	212.6	216.8
55–59 years	500.0	472.5	459.2	420.1	443.2	421.3	391.2	377.1	345.1
60–64 years	849.5	785.8	747.7	672.5	706.0	671.5	628.7	605.0	573.4
65 years and over	2,012.4	1,947.8	1,920.2	1,909.4	1,893.9	1,944.9	1,819.0	1,696.1	1,682.8
65–69 years	1,250.4	1,200.3	1,111.8	1,053.4	998.9	964.7	856.1	777.3	721.3
70–74 years	1,678.1	1,627.4	1,683.5	1,747.7	1,768.5	1,960.1	1,858.4	1,731.3	1,638.1
75–79 years	2,411.3	2,258.3	2,320.0	2,280.9	2,233.8	2,331.4	2,217.6	2,282.2	2,491.9
80–84 years	3,158.0	3,120.5	3,110.5	2,810.5	2,907.8	2,785.3	2,650.4	2,439.8	2,490.2
85 years and over	5,269.6	5,070.0	4,418.2	4,760.9	4,666.2	4,831.3	4,462.5	3,843.4	3,747.7

[1] Based on a 50-percent sample of deaths.
[2] Includes all races and both sexes.

NOTE: The ICDA revision and code numbers are the Eighth Revision, Nos. 410–413.

SOURCES: National Center for Health Statistics: *Vital Statistics of the United States,* Vol. II, for data years 1968–1973, Washington. U.S. Government Printing Office; for data years 1974–1976, Public Health Service, DHEW, Hyattsville, Md. To be published; U.S. Bureau of the Census: Population estimates and projections. *Current Population Reports.* Series P–25, Nos. 519, 529, and 643. Washington. U.S. Government Printing Office, Apr. 1974, Sept. 1974, and Jan. 1977; National Center for Health Statistics: Data computed by the Division of Analysis from data compiled by the Division of Vital Statistics.

Table 30. Age-adjusted death rates, according to selected causes and sex: Selected countries, selected years 1961-76

(Data are based on reports from national health and statistical administrations of selected countries)

Cause of death, sex, and country	Year								
	1961	1965	1970	1971	1972	1973	1974	1975	1976
	Number of deaths per 100,000 population								
ALL CAUSES									
Male									
Canada	1,095.4	1,100.4	1,077.9	1,063.6	1,086.4	1,082.1	1,076.0	---	---
United States	1,188.3	1,213 9	1,194.7	1,185.2	1,196.0	1,158.9	1,144.2	1,104.1	---
Mexico	1,422.1	1,430.4	1,382.4	1,265.9	1,270.0	1,226.3	1,247.7	---	---
Sweden	948.9	960.7	916.3	943.8	939 3	947.1	942.1	945.8	956.6
England and Wales	1,263.3	1,217.9	1,215.9	1,169 3	1,207.9	1,186.5	1,169.3	1,152.8	---
Netherlands	931.7	983.3	1,023.5	1,014.4	1,038 4	1,000.9	975.7	1,010.6	1,005.0
German Democratic Republic	---	---	---	---	---	---	---	1,242.9	---
German Federal Republic	1,216.6	1,236.8	1,247.0	1,250.6	1,244.6	1,231.9	1,201.0	1,221.9	---
France	1,181.8	1,225.1	1,111.3	1,119.6	1,102.1	1,087.7	1,080.6	---	---
Switzerland	1,096.8	1,115.2	1,054.3	1,052.3	1,009.8	994.3	979.6	958.0	959.7
Italy	1,127.2	1,182.0	1,130.7	1,129.6	1,119.1	1,159.6	1,062.5	---	---
Israel[1]	935.8	974.0	1,037 9	1,000.8	998.7	1,002 7	998.7	---	---
Japan	1,295.9	1,233 6	1,112 4	1,032.1	997.6	1,002.8	980.1	933.8	911.5
Australia	1,185.9	1,229.4	1,288.1	1,233.8	1,224.1	1,220.6	1,260.7	---	---
Female									
Canada	751.8	725.2	668.6	647.1	651.9	642.0	639.0	---	---
United States	779.6	769.8	729.7	714.5	716.3	710.2	684.7	653.0	---
Mexico	1,317.4	1,319 9	1,172.5	1,086.8	1,081.8	1,038.9	1,007.9	---	---
Sweden	739.5	698.0	631.3	623.4	621.2	614.1	603.6	606.3	608.9
England and Wales	822.0	763 3	752.6	731.8	755.2	745.8	734.9	722.0	---
Netherlands	702.4	686.9	670.2	660.6	662.4	633.1	608.9	610.5	597.8
German Democratic Republic	---	---	---	---	---	---	---	846.1	---
German Federal Republic	858.3	823.8	822.8	801.2	784.8	772.4	758.7	762.8	---
France	738.5	740.1	662.0	663.2	644.2	639.3	626.1	---	---
Switzerland	751.8	753.7	690.4	683.7	649.1	642.2	609.3	585.7	583.2
Italy	808.8	831.1	748.2	730.5	717.9	749.0	689.7	---	---
Israel[1]	801.3	844.2	866.5	831.2	874.9	835.6	853.1	---	---
Japan	937.2	866.0	766.2	704.9	674.7	686 5	675.5	640.1	620.1
Australia	760 9	777.0	796.7	770.5	745.0	743.2	765.2	---	---
MALIGNANT NEOPLASMS									
Male									
Canada	182.7	184.5	204.1	203.0	206.7	209.2	207.8	---	---
United States	181.3	188.8	199.4	201.1	203.8	204.6	207.7	207.3	---
Mexico	63 5	73.0	71 2	67.6	69.1	68.6	75.4	---	---
Sweden	168.6	168.5	173 6	187.2	194.5	194.4	197.1	198.5	198.4
England and Wales	227.0	234.3	244.7	241.2	244.4	244.4	245.9	243.7	---
Netherlands	212.4	225.6	239.9	243.2	246.4	253.3	254.0	259.6	261.4

German Democratic Republic	---	---	---
German Federal Republic	213.7	227.2	231.7
France	217.4	229.4	228.6
Switzerland	222.2	222.5	225.5
Italy	176.6	193.0	210.9
Israel[1]	152.9	157.3	164.9
Japan	171.6	178.2	181.4
Australia	173.5	182.4	203.9
Female			
Canada	130.0	139.6	138.8
United States	133.6	132.6	132.9
Mexico	91.5	96.6	88.1
Sweden	139.1	132.6	137.1
England and Wales	142.5	143.5	148.4
Netherlands	152.1	153.8	151.9
German Democratic Republic	---	---	---
German Federal Republic	161.0	163.7	158.5
France	132.4	132.3	123.6
Switzerland	145.1	144.6	141.9
Italy	122.8	129.0	127.0
Israel[1]	143.8	144.9	153.4
Japan	118.1	116.7	114.0
Australia	122.9	119.9	129.4
CANCER OF TRACHEA, BRONCHUS, AND LUNG			
Male			
Canada	32.9	39.4	50.8
United States	39.5	46.7	57.5
Mexico	7.7	9.3	9.5
Sweden	18.5	21.0	25.1
England and Wales	78.2	86.0	93.3
Netherlands	54.6	64.6	80.2
German Democratic Republic	---	---	---
German Federal Republic	44.1	50.8	55.4
France	27.8	33.6	36.8
Switzerland	38.3	43.5	51.1
Italy	26.5	34.5	44.0
Israel[1]	23.7	27.4	30.4
Japan	13.0	16.6	20.6
Australia	36.3	44.6	54.4

See footnotes at end of table.

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234.1	232.6	234.4	236.5	241.9	---
234.3	239.5	241.1	247.7	---	---
236.6	233.8	238.1	232.5	233.2	235.6
217.6	219.9	225.8	215.6	---	---
169.8	160.6	159.2	173.9	---	---
180.5	182.1	183.2	184.6	181.3	184.0
203.9	207.2	210.4	216.9	---	---
135.5	139.0	138.3	138.6	---	---
131.5	132.2	132.2	133.0	132.3	---
86.1	86.1	83.7	91.3	---	---
140.3	145.2	142.4	145.0	143.6	140.3
148.7	149.1	150.0	150.9	151.2	---
148.2	148.6	149.2	146.8	146.2	140.8
---	---	---	---	130.8	---
158.1	153.5	154.5	154.2	154.4	---
124.8	125.7	124.5	124.8	---	---
141.0	140.0	140.4	133.0	133.6	132.2
127.8	128.9	129.9	126.4	---	---
152.4	149.7	150.2	155.7	---	---
113.7	112.3	112.3	111.1	109.1	108.7
128.3	128.2	131.2	129.0	---	---
52.8	54.3	56.4	59.1	---	---
58.9	61.1	62.0	63.7	64.6	---
9.7	9.9	10.1	11.5	---	---
27.9	29.1	29.6	30.5	31.1	32.1
92.4	93.8	94.6	95.7	93.8	---
84.7	84.6	88.3	89.5	92.9	96.4
---	---	---	---	63.9	---
57.4	58.1	59.2	59.8	61.5	---
38.9	41.4	42.2	44.3	---	---
53.8	53.7	56.5	57.8	60.6	59.9
47.7	49.2	51.5	51.9	---	---
31.8	30.4	28.7	34.3	---	---
21.6	23.0	23.6	24.9	25.8	27.1
55.8	57.0	58.4	61.2	---	---

Table 30. Age-adjusted death rates, according to selected causes and sex Selected countries, selected years 1961–76—Continued

(Data are based on reports from national health and statistical administrations of selected countries)

Cause of death, sex, and country	Year								
	1961	1965	1970	1971	1972	1973	1974	1975	1976
Female	Number of deaths per 100,000 population								
Canada	4.8	6.1	7.8	8 0	9.6	10.2	10.9	---	---
United States	6.0	7 4	11.0	11.9	12.8	13.3	14.3	15.2	---
Mexico	4.7	4 9	4.9	5.0	5.2	5.2	5.1	---	---
Sweden	4.9	5.1	6.1	6.6	6.5	7.2	7.6	7.8	7 4
England and Wales	10.2	12.2	15.0	15.5	16.2	16 7	17.9	18.2	---
Netherlands	4.7	4.3	4.6	4 9	5.2	4.9	5.5	5.4	5 9
German Democratic Republic	---	---	---	---	---	---	---	5.5	---
German Federal Republic	5 7	6.5	6.1	6.1	5.9	6.0	6.2	6.6	---
France	4 2	4.6	4 2	4 3	4.4	4.4	4.5	---	---
Switzerland	3 8	4.1	4.4	4 8	5.2	5.3	4.9	5.5	5.8
Italy	4.9	5.5	5 8	5 8	6.2	6.5	6.5	---	---
Israel[1]	7.3	10.2	11.4	12.9	8.8	9.8	9.2	---	---
Japan	4 8	5.8	6 5	6.5	7.0	7.2	7.2	7.5	8.0
Australia	4.4	5.2	7 9	8.2	7.9	8.6	8.5	---	---
CIRCULATORY SYSTEM DISEASES									
Male									
Canada	579 9	584.6	550 3	536 8	545 9	539.5	540.5	---	---
United States	661.5	660.1	629 6	627 0	628.6	620.2	593.7	561.4	---
Mexico	221.3	173 7	231.7	216.6	244.5	254.8	263 3	---	---
Sweden	489 0	491.3	472 1	503.4	484.9	496.5	486.2	484.6	491.3
England and Wales	612.2	604.2	590 1	580.9	596.6	582.8	575.6	567.4	---
Netherlands	415.0	442.2	461.6	450.4	471.6	441 2	430.8	442.1	446.4
German Democratic Republic	---	---	---	---	---	---	---	623.5	---
German Federal Republic	485.9	511 7	533 9	541 4	539.0	531.7	521.5	525.8	---
France	390.1	397 3	381 1	388.7	379.8	374.9	373.1	---	---
Switzerland	479.8	506.7	441.7	443.1	421.4	411.4	410.2	426.3	427 2
Italy	484.5	523.2	481 7	490 6	477.2	504.7	472.8	---	---
Israel[1]	482.3	510.4	545.0	544.8	533.6	537.4	523.2	---	---
Japan	494.5	513.4	484 6	452.7	434.5	438.8	428.6	405.2	395.3
Australia	649.9	684.4	701.2	679.5	668.0	658.5	674.2	---	---
Female									
Canada	406.7	386.5	344.2	331.7	329.3	324.2	323.5	---	---
United States	444.3	429 4	397.7	389.9	390.4	385.8	369.6	344.8	---
Mexico	247 0	181.4	230.2	213.0	241.1	247.4	250.5	---	---
Sweden	393 7	364 7	321.4	329.4	321.1	313.1	304.7	308.5	304.3
England and Wales	433.5	401.1	378.9	373.0	383.7	376.5	369.3	359.0	---
Netherlands	340.2	324.6	307.4	298.9	307.4	285.7	276.8	271.9	267.4

German Democratic Republic	---	---	---	---	---	---	---	478.3	---
German Federal Republic	369.6	359.5	366.8	366.4	359.7	351.0	347.9	348.5	---
France	263.1	258.4	246.5	250.4	244.2	242.0	239.4	---	---
Switzerland	377.4	382.5	330.2	321.5	303.2	296.8	282.4	282.7	286.5
Italy	391.3	415.8	362.1	360.3	351.2	374.3	349.7	---	---
Israel[1]	425.7	474.3	483.2	459.6	490.8	452.5	477.7	---	---
Japan	395.7	365.8	346.1	320.9	309.9	318.9	316.5	299.9	293.0
Australia	434.5	452.0	460.0	450 4	431.6	428.5	444.1	---	---
ISCHEMIC HEART DISEASE									
Male									
Canada	---	---	372.5	361.5	366.2	360.2	361.3	---	---
United States	---	---	433.5	431.6	430.9	425.6	405.9	386.3	---
Mexico	---	---	58.7	53.4	53.8	56.6	60.1	---	---
Sweden	---	---	321.1	352.4	339.5	354.4	342.0	340.9	348.5
England and Wales	---	---	325.0	326.2	339.8	336.3	335.2	335.3	---
Netherlands	---	---	252.3	250.6	262.3	244.7	237.5	246.9	253.7
German Democratic Republic	---	---	---	---	---	---	---	152.8	---
German Federal Republic	---	---	206.6	217.6	222.0	226.6	228.7	235.8	---
France	---	---	91.9	96.3	98.1	98.4	100.7	---	---
Switzerland	---	---	140.0	144.4	140.9	135.9	141.6	150.6	153.5
Italy	---	---	161.6	167.8	163.7	178.5	170.1	---	---
Israel[1]	---	---	326.1	334.1	337.0	336.1	323.9	---	---
Japan	---	---	68.0	64.4	62.7	65.9	66.4	62.9	62.3
Australia	---	---	430.1	415.5	406.7	397.8	409.8	---	---
Female									
Canada	---	---	196.7	186.6	185.0	184.3	184.8	---	---
United States	---	--	239.1	235.4	235.3	230.9	221.0	207.4	---
Mexico	---	---	41.9	37.2	38.7	40.3	41.1	---	---
Sweden	---	---	184.4	193.0	192.4	189.4	182.5	184.3	180.6
England and Wales	---	---	147.6	148.6	156.8	156.3	155.8	153.9	---
Netherlands	---	---	116.4	117.4	120.0	112.3	109.7	109.2	110.5
German Democratic Republic	---	---	---	---	---	---	---	78.5	---
German Federal Republic	---	---	92.5	97.0	100.8	103.1	105.8	111.3	---
France	---	---	41.4	43.8	44.4	44.1	44.7	---	---
Switzerland	---	---	61.5	61.6	59.2	59.6	59.2	58.0	59.7
Italy	---	---	96.1	96.1	95.2	105.7	99.1	---	---
Israel[1]	---	---	229.9	224.3	242.9	234.0	245.6	---	---
Japan	---	---	40.5	37.4	37.5	40.6	41.6	40.0	39.0
Australia	---	---	213.6	210.4	202.6	198.7	208.5	---	---

[1] Data are for the Jewish population only.

NOTE: Age-adjusted rates computed by the direct method, using as the standard population the age distribution of the population of the United States as enumerated in 1970.

SOURCE: World Health Organization: Unpublished data.

Table 31. Death rates due to malignant neoplasms, according to race, sex, and age: United States, selected years 1950–76

(Data are based on the national vital registration system)

Race, sex, and age	Year										
	1950	1955	1960	1965	1970	1971	1972[1]	1973	1974	1975	1976
Total[2]	Number of deaths per 100,000 resident population										
All ages	139.8	146.5	149.2	153.8	162.8	163 6	166.0	167.3	170.5	171.7	175.8
Under 25 years	8.5	8.6	8.1	7.5	7.0	6 7	6.4	6.4	6.0	5.7	5.7
Under 1 year	8.7	7.7	7 2	7.1	4.7	4 3	4.6	4.4	3.8	4.2	3.2
1–24 years	8.5	8.6	8.2	7.6	7.1	6.8	6 5	6.4	6.0	5.8	5.7
25–29 years	15.1	14 6	14.7	13.8	12.7	13.0	12.1	11.9	11.5	11.4	11.2
30–34 years	25.3	23 7	23.8	24.0	21.0	21.7	20.3	20.0	19.2	19.2	18.7
35–39 years	45.8	44.5	43.0	42.4	40.9	38.7	39 0	39.7	38.1	35.5	35.2
40–44 years	81.2	79.2	77.6	78.4	76.8	76.4	75.4	72.0	72.1	71.2	68.9
45–49 years	137.0	135.7	135.4	136 1	139.3	137.6	138.7	139.9	140.0	136.6	134 4
50–54 years	216.9	219.7	224.2	227 4	229.6	224.7	222.7	222.4	227.1	226 2	228.4
55–59 years	329.6	327.4	327 8	330 5	357.5	355.1	362.4	359.7	360.1	352.7	356.2
60–64 years	468.5	466.2	478.3	496 1	498.8	496.7	499.9	508.4	523.1	519.7	533.5
65 years and over	851 3	869.5	870 9	887.0	923.4	934.5	947.6	946.7	957.2	961.1	979.0
65–69 years	598.8	638.0	634.6	647.9	674.0	676.8	682.1	679 5	676.2	670.3	685.3
70–74 years	830.0	812.7	818.6	829.9	857 1	864.7	897.3	888.5	909.6	923.1	927.8
75–79 years	1,077.6	1,067.1	1,032.9	1,047.0	1,099.5	1,104.3	1,121.4	1,133.4	1,153.3	1,152.9	1,185.0
80–84 years	1,294.2	1,294.9	1,310.1	1,239.2	1,286.1	1,272.1	1,273.4	1,271.1	1,304.6	1,326.0	1,343.1
85 years and over	1,450.8	1,465.3	1,450.0	1,483.6	1,320 7	1,440 7	1,428.5	1,435.3	1,414.7	1,408.8	1,441.5
White male											
All ages	147.2	160 0	166.1	173.7	185.1	186 1	188.7	189.6	193.7	194.8	199.2
Under 25 years	9.7	10.4	9.7	8.8	8.5	8.1	7.8	7.6	7.1	6.8	6.8
Under 1 year	9.6	8.7	7.9	6 2	4.3	4.5	4.0	4.5	3.8	4.5	3.1
1–24 years	9.7	10.4	9.8	8.9	8.6	8.3	7.9	7.7	7.2	6.8	6 9
25–29 years	15.0	15.0	16.4	15.0	13.7	14.4	13.0	13.4	12.1	12.5	12.1
30–34 years	20.6	19.8	21.1	21.1	19.1	20.9	17.6	18.1	17.7	18.2	16.4
35–39 years	32.7	33.0	33 8	35.5	33.6	33.2	32.4	34.5	31.8	29.4	29.8
40–44 years	57.2	56 2	59.7	63.4	65.3	63.7	62.5	62.1	60.4	59.6	58.7
45–49 years	110.4	113.5	114.5	119.5	122.9	122.2	122.7	125.6	129.7	124.3	124.7
50–54 years	194 7	209.5	219.9	222.9	225.4	220.4	217.8	216.1	226.8	224.9	225.1
55–59 years	327 9	340.5	360.1	368.3	397.4	391.9	401.7	388.6	389.3	378.2	382.7
60–64 years	506.0	529.6	559.3	598.1	617.0	601.4	613.6	614.3	629.6	619.7	630.5
65 years and over	986.0	1,045.6	1,073.4	1,144.9	1,221.2	1,249.2	1,267.7	1,270.1	1,286.8	1,296.0	1,318.3
65–69 years	685.5	767 1	780.0	832.0	879.3	888.8	887.4	888.0	890.9	887.3	900.3
70–74 years	965.2	986.4	1,029.9	1,078.3	1,153.8	1,171.7	1,216.2	1,201.2	1,221.0	1,248.8	1,247.4
75–79 years	1,261.4	1,297.0	1,297.9	1,376.3	1,493.3	1,530.3	1,569.2	1,573.5	1,629.5	1,616.8	1,672.8
80–84 years	1,573.4	1,633.0	1,648.4	1,647.5	1,770.2	1,791.2	1,821.3	1,834.2	1,870.6	1,923.3	1,964.8
85 years and over	1,733.9	1,746.9	1,791.4	1,958.7	1,772.2	2,001.7	1,966.5	2,062.5	2,034.0	2,046.6	2,110.9

White female				
All ages	139.9	141.0	139.8	141.9
Under 25 years	7.8	7.4	7.0	6.7
Under 1 year	7.8	7.2	6.8	6.2
1–24 years	7.8	7.4	7.0	6.7
25–29 years	14.8	13.8	12.7	12.4
30–34 years	27.3	25.7	24.2	25.1
35–39 years	53.9	51.7	47.9	44.3
40–44 years	97.4	93.3	86.7	85.0
45–49 years	153.1	144.8	143.8	140.4
50–54 years	221.1	213.8	211.6	216.5
55–59 years	314.5	297.8	281.7	279.0
60–64 years	419.4	394.5	382.6	380.8
65 years and over	768.4	747.6	718.4	702.0
65–69 years	534.2	526.7	500.3	488.3
70–74 years	733.1	679.5	641.6	623.6
75–79 years	956.1	912.7	847.8	820.5
80–84 years	1,153.1	1,114.8	1,107.2	1,005.8
85 years and over	1,348.1	1,357.6	1,304.9	1,257.5
All other male				
All ages	106.1	119.1	134.1	144.3
Under 25 years	7.2	7.3	6.9	6.4
Under 1 year	10.4	6.9	6.5	6.1
1–24 years	7.0	7.3	6.9	6.4
25–29 years	14.8	12.0	14.7	13.1
30–34 years	21.5	21.8	21.7	19.5
35–39 years	39.7	38.3	47.3	48.8
40–44 years	74.4	84.9	99.3	103.6
45–49 years	144.6	170.3	169.9	184.6
50–54 years	282.3	277.6	308.8	327.2
55–59 years	421.1	447.6	433.7	485.9
60–64 years	571.6	643.2	710.6	754.8
65 years and over	691.6	810.4	982.4	1,073.8
65–69 years	579.2	722.0	864.1	901.4
70–74 years	720.7	818.7	1,021.2	1,119.3
75–79 years	896.9	891.6	1,038.0	1,217.7
80–84 years	751.4	957.1	1,195.5	1,252.4
85 years and over	900.0	1,045.8	1,211.7	1,458.8

See footnotes at end of table.

149.4	149.5	152.2	153.0	156.1	157.7	162.0
6.0	5.6	5.5	5.3	5.0	4.9	4.7
5.4	4.1	4.9	4.5	3.4	4.2	3.6
6.0	5.6	5.5	5.3	5.1	4.9	4.8
11.6	11.3	11.0	10.5	10.7	10.2	10.3
21.8	21.4	21.2	20.7	20.1	19.5	20.3
44.5	39.7	41.1	41.8	40.5	37.7	38.6
78.8	80.8	79.2	73.7	75.5	75.0	71.0
142.6	139.0	139.8	137.7	137.3	134.3	131.3
214.8	210.2	207.5	206.2	206.6	208.1	209.5
301.9	299.6	305.4	306.7	308.8	302.9	306.3
380.0	384.2	383.0	394.5	404.9	406.6	420.7
714.3	713.1	724.6	719.0	726.7	729.2	744.9
495.6	493.1	502.1	498.8	493.7	486.1	506.7
626.4	622.9	646.3	630.2	646.0	655.4	661.2
836.2	823.2	825.4	840.5	845.1	842.2	856.6
1,011.9	986.1	985.4	974.8	1,008.0	1,019.6	1,023.7
1,126.6	1,200.4	1,204.6	1,174.0	1,164.8	1,165.9	1,192.8

161.0	161.8	165.2	170.1	173.5	175.3	179.2
6.7	6.4	5.7	6.3	6.0	5.5	5.8
4.7	3.9	6.7	3.5	5.6	3.8	4.7
6.8	6.5	5.7	6.4	6.0	5.6	5.8
11.4	13.9	11.7	11.0	10.6	11.6	10.6
23.6	20.2	25.1	19.9	16.7	18.5	17.6
44.1	47.3	50.4	43.6	43.1	45.6	37.1
108.1	101.1	110.3	94.0	98.9	100.5	99.7
213.9	200.7	217.3	220.7	208.7	208.8	204.4
373.7	356.8	359.1	376.0	385.7	382.1	385.0
553.3	570.1	612.0	612.9	619.3	612.7	618.8
750.3	783.5	757.9	807.8	830.3	863.0	909.7
1,221.1	1,240.4	1,270.7	1,319.0	1,349.2	1,351.5	1,377.7
988.8	987.5	1,012.4	1,020.7	1,022.5	1,035.1	1,017.5
1,266.3	1,300.5	1,359.6	1,436.6	1,518.7	1,503.2	1,568.8
1,504.5	1,496.9	1,568.2	1,648.1	1,668.2	1,700.7	1,813.9
1,593.8	1,534.2	1,470.1	1,523.2	1,625.0	1,654.7	1,671.1
1,268.4	1,493.9	1,458.8	1,566.0	1,535.1	1,479.7	1,473.5

Table 31. Death rates due to malignant neoplasms, according to race, sex, and age: United States, selected years 1950–76—Continued

(Data are based on the national vital registration system)

Race, sex, and age	Year										
	1950	1955	1960	1965	1970	1971	1972[1]	1973	1974	1975	1976
	Number of deaths per 100,000 resident population										
Black male:											
All ages	106.6	---	136.7	149.2	171.6	170.6	174.2	180.7	184.4	188.5	193.5
Under 25 years	7.1	---	6.7	6.4	6.8	6.4	5.9	6.6	6.1	5.7	6.0
Under 1 year	---	---	6.8	6.0	5.3	4.0	5.8	3.5	6.3	3.1	4.5
1–24 years	---	---	6.7	6.4	6.9	6.5	5.9	6.7	6.1	5.8	6.0
25–29 years	15.3	---	15.0	13.9	12.8	14.5	12.4	12.1	11.6	12.5	11.4
30–34 years	21.1	---	21.7	20.3	25.9	20.9	25.9	20.6	17.6	19.9	18.4
35–39 years	39.3	---	47.7	51.1	46.6	50.4	52.8	47.2	46.1	48.1	40.0
40–44 years	74.3	---	101.2	107.5	115.7	109.0	120.7	102.4	106.9	110.3	108.8
45–49 years	147.5	---	177.9	195.3	229.2	216.8	231.3	238.7	227.2	229.3	223.2
50–54 years	288.5	---	324.4	344.6	404.1	381.8	383.4	403.0	414.3	416.1	418.2
55–59 years	425.2	---	461.4	511.9	595.7	606.9	652.8	653.6	654.6	657.8	666.6
60–64 years	580.1	---	740.1	802.8	802.3	826.6	805.5	857.3	881.2	915.8	970.4
65 years and over	696.1	---	980.4	1,097.4	1,297.6	1,303.9	1,332.7	1,395.8	1,433.4	1,441.6	1,475.0
65–69 years	581.2	---	886.5	939.5	1,049.4	1,041.4	1,063.7	1,060.0	1,068.9	1,086.9	1,062.7
70–74 years	733.3	---	1,017.1	1,136.5	1,349.1	1,365.1	1,437.6	1,557.2	1,641.0	1,621.9	1,714.3
75–79 years	853.5	---	1,012.6	1,247.5	1,580.6	1,572.4	1,651.3	1,776.3	1,809.7	1,875.0	2,026.1
80–84 years		---	1,145.2	1,246.4	1,707.7	1,611 1	1,536.4	1,615.5	1,766.7	1,784.0	1,783.3
85 years and over		---	1,155.2	1,456.7	1,387.0	1,528.6	.1,507.0	1,653.3	1,604.2	1,573.6	1,614.3
All other female											
All ages	110.1	108.4	109.8	109.2	110.0	115.0	113.4	117.9	117.2	115.5	117.8
Under 25 years	6.4	5.5	5.9	5.3	4.9	5.5	4.4	5 4	4.7	4.6	4.2
Under 1 year	6.9	5.3	6.5	3.8	3.3	4.3	3.8	3.6	4.5	2.7	0.8
1–24 years	6.4	5.5	5.9	5.4	5.0	5.6	4.5	5.4	4.7	4.6	4.3
25–29 years	19.6	19.9	17.1	15.3	14.4	15.2	14.2	12.7	13.7	11.1	11.3
30–34 years	49.1	38.8	41.5	40.4	25.5	29.7	26.7	26.7	25.4	23.9	23.9
35–39 years	89.1	82.9	72.1	71 4	60.2	60.4	57.7	56.3	57.7	51.4	45.3
40–44 years	155.9	144.8	128.4	119.1	115.2	110.8	107.1	106.7	102.9	95.1	94.3
45–49 years	223.5	226.4	207.1	194.4	173.9	189.4	182.7	192.7	177.1	177.9	164.1
50–54 years	335.7	312.0	300.7	271.2	267.0	270.4	273.4	273.6	262.3	251.0	270.9
55–59 years	446.2	390.7	369.6	343.6	357 1	371.3	346.8	393.0	368.9	368.1	357.8
60–64 years	528.3	446.0	505.4	508.1	422.6	442.9	438.5	446.7	484.9	459.3	471.9
65 years and over	513.5	542.2	591.0	597.0	641.6	609.7	676.9	689.2	685.5	683.3	700.9
65–69 years	429.2	478.0	498.3	341.8	534.0	542.0	554.9	535.0	505.0	484.5	492.0
70–74 years	565 2	551.3	596.6	590.8	672.4	719.6	745.2	800.4	840.4	810.3	801.5
75–79 years	617.7	672.8	676.6	671.3	729.1	738.3	766.1	808.1	785.1	917.1	940.1
80–84 years	525.0	545.1	757.2	690.9	744.2	781.6	715.3	742.5	773.6	769.5	822.6
85 years and over	719.2	641.2	727.5	942.9	758.9	847.4	819.5	787.5	792.8	732.7	819.0

Black female:											
All ages	111.8	---	113.8	113.6	117.3	121.4	120.1	125.5	124.7	123.3	126.8
Under 25 years	6.5	---	6.0	5.4	5.1	5.6	4.6	5.4	4.7	4.7	4.2
Under 1 year	---	---	6.7	3.0	3.3	4.6	4.2	3.1	4.6	2.7	0.5
1–24 years	---	---	5.9	5.5	5.2	5.6	.46	5.5	4.7	4.8	4.3
25–29 years	19.7	---	18.4	16.6	15.4	16.6	15.3	13.6	14.9	11.2	12.3
30–34 years	50.6	---	43.1	43.9	27.0	30.8	22.7	28.9	26.9	25.4	25.8
35–39 years	89.2	---	75.9	73.9	64.6	61.8	62.6	59.3	60.6	54.8	48.4
40–44 years	156.6	---	132.4	124.6	124.7	118.9	117.1	115.2	111.6	101.4	100.3
45–49 years	227.3	---	210.7	201.8	183.2	202.6	193.8	208.8	190.6	191.3	177.3
50–54 years	339.5	---	308.4	278.4	280.3	284.2	287.8	290.4	279.6	270.6	290.6
55–59 years	449.9	---	384.8	355.0	370.7	388.0	361.1	407.7	382.0	385.5	377.7
60–64 years	530.1	---	518.5	527.4	444.7	455.3	450.5	463.4	501.1	472.7	491.1
65 years and over	513.0	---	591.4	601.2	668.4	623.0	695.2	713.4	709.7	704.4	730.3
65–69 years	428.4	---	505.0	515.5	558.3	554.3	563.8	545.8	513.6	489.0	497.8
70–74 years	569.5	---	596.5	593.5	702.3	749.0	778.7	852.4	897.9	860.1	855.5
75–79 years	605.3	---	673.4	670.1	762.5	761.2	792.2	848.4	831.4	989.8	1,028.6
80–84 years		---	745.1	672.6	764.7	785.3	719.6	764.2	791.2	789.0	871.3
85 years and over		---	728.9	934.8	791.5	873.9	851.4	810.0	813.6	733.0	844.0

[1] Based upon a 50-percent sample of deaths.
[2] Includes all races and both sexes.

NOTE: The ICDA Revisions and code numbers are for 1950 and 1955, Sixth Revision, Nos. 140–205, for 1960 and 1965, Seventh Revision, Nos. 140–205; and for 1970–76, Eighth Revision, Nos. 140–209.

SOURCES: National Center for Health Statistics: *Vital Statistics of the United States,* Vol. II, for data years 1950–1973, Washington. U.S. Government Printing Office; for data years 1974–1976, Public Health Service, DHEW, Hyattsville, Md. To be published; U.S. Bureau of the Census: Population estimates and projections. *Current Population Reports.* Series P–25, Nos. 310, 519, 529, and 643. Washington. U.S. Government Printing Office, June 1965, Apr. 1974, Sept. 1974, and Jan. 1977; General population characteristics, United States summary, 1960 and 1970. *U.S. Census of Population.* Final reports PC(1)–B1; *1950 Nonwhite Population by Race,* Special report P–E No. 3B. Washington. U.S. Government Printing Office, 1961, 1972, and 1951; National Center for Health Statistics: Data computed by the Division of Analysis from data compiled by the Divison of Vital Statistics.

Table 32. Death rates due to cancer of the respiratory system, according to race, sex, and age: United States, selected years 1950-76

(Data are based on the national vital registration system)

Race, sex, and age	Year										
	1950	1955	1960	1965	1970	1971	1972[1]	1973	1974	1975	1976
Total[2]	Number of deaths per 100,000 resident population										
All ages	14.1	18.2	22.2	26.9	34.2	35.4	37.0	37.8	39.5	40.7	42.5
Under 25 years	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25–34 years	0.9	1.0	1.1	1.0	1.0	1.1	0.9	1.0	0.9	0.9	0.9
35–44 years	5.1	5.9	7.3	9.3	11.6	11.2	11.6	11.2	11.0	11.0	10.7
45–54 years	22.9	27.4	32.0	38.4	46.2	47.0	49.2	49.6	51.6	52.3	53.4
55–64 years	55.2	68.5	81 5	93.5	116.2	116.3	122.8	125.6	130.5	131.9	135.6
65 years and over	69.0	90.2	111.0	136.1	170.1	180.2	186.3	189.5	196.4	202.2	211.4
65–74 years	69.3	92.9	117.2	142.9	174.6	183.6	190.5	193.0	198.5	205.3	212.5
75–84 years	69.3	88.2	102.9	129.2	175.1	184.7	192.2	195.7	206.9	212.4	226.2
85 years and over	64.0	65.8	79.1	97.1	113.5	133.0	127.9	136.6	141.1	142.8	152.5
White male											
All ages	24.1	32 5	39.6	47.5	58.3	59.4	61.5	62.4	64.5	65.8	67.9
Under 25 years	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25–34 years	1.2	1.4	1.6	1.4	1.4	1.5	1.0	1.1	1.1	1.3	1.0
35–44 years	7.9	8.9	10.4	12.9	15.4	14.7	14.9	14.7	14.2	13.4	13.4
45–54 years	39.1	47.2	53.0	60.7	67.6	67.1	69.9	69.5	72.9	73.0	72.7
55–64 years	95.9	125.3	149.8	169.7	199.3	195.3	202.8	204.1	208.4	206.3	209.3
65 years and over	116.1	164.4	211.7	270.8	341.7	361.2	371.7	377.4	387.1	398.0	411.3
65–74 years	119.5	172.1	225.1	282.5	344 8	358.6	366.7	371.3	374.0	385.2	391.8
75–84 years	109.1	155.2	191.9	259.2	360 7	385.7	405.9	411.1	438.4	452 0	477.5
85 years and over	102.8	105.1	133.9	181 5	221.8	269.7	260.4	285.2	294.2	298.2	329.6
White female											
All ages	5.4	5.7	6.4	8.6	13.1	14 2	15.5	16.0	17.5	18.8	20.5
Under 25 years	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
25–34 years	0.5	0.6	0.6	0.6	0.6	0.7	0.6	0.8	0.7	0.5	0.7
35–44 years	2.2	2.6	3.4	4.5	6.0	6.1	6.9	6.4	6.4	7.1	6.7
45–54 years	6.5	6.8	9.8	14.8	22.1	23.4	25.3	24.4	25.7	27.7	29.1
55–64 years	15.5	14.8	16.7	23.4	39.3	41.8	46.8	49.7	54.7	58.9	63.0
65 years and over	31.6	31.2	30 6	36.7	50.0	55.3	58.6	60.9	66.3	69.6	77.3
65–74 years	27.2	26.7	26.5	33.1	45.4	51.3	56.6	57.9	64.1	68.1	76.3
75–84 years	40.0	39.1	36.5	41.1	56.8	59.4	60.6	64.9	68.9	71.3	79.4
85 years and over	43.9	42.7	45.2	51.2	57.4	68.2	64.5	66.2	71.3	73.1	76.4

All other male											
All ages	14.5	20.6	30.5	36.0	47.6	48.7	51.8	54.2	56.4	56.7	58.3
Under 25 years	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25–34 years	2.1	2.2	2.5	1.7	2.4	1.9	2.5	1.9	1.6	1.6	1.5
35–44 years	9.3	12.9	19.8	24.5	29.3	27.5	28.0	25.2	26.7	27.3	23.8
45–54 years	40.5	56.3	70.4	84.7	113.1	113.2	115.1	130.6	128.7	122.9	129.0
55–64 years	79.1	108.0	154.2	171.0	231.5	241.8	263.9	275.4	283.8	290.0	295.4
65 years and over	60.7	93.7	170.2	219.6	285.3	299.4	326.3	332.9	357.8	358.4	369.1
65–74 years	67.6	100.6	183.4	240.2	301.2	310.6	343.9	343.6	378.1	378.2	384.3
75–84 years	48.5	83.2	145.4	177.8	278.7	301.0	313.9	331.9	340.7	346.9	372.2
85 years and over	10.5	45.8	114.8	147.1	158.8	117.6	192.2	218.9	221.1	218.8	223.5
Black male:											
All ages	14.3	---	31.1	37.6	51.2	51.8	55.5	58.3	61.0	61.8	63.3
Under 25 years	0.2	---	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.1	0.1
25–34 years	2.1	---	2.6	1.8	2.9	2.0	2.6	2.1	1.8	1.6	1.5
35–44 years	9.4	---	20.7	26.1	32.6	30.5	31.1	28.1	29.8	30.7	26.7
45–54 years	41.1	---	75.0	90.4	123.5	123.7	125.9	143.4	141.8	136.9	142.6
55–64 years	78.8	---	161.8	182.7	250.3	259.9	283.8	295.6	306.1	313.2	319.4
65 years and over	58.9	---	166.4	224.0	302.9	311.4	343.0	353.7	382.4	383.3	394.0
65–74 years	65.2	---	184.6	248.1	322.2	324.7	368.0	366.7	402.8	404.7	408.8
75–84 years	42.4	---	126.3	172.6	290.6	310.6	315.8	351.9	369.2	370.7	401.5
85 years and over		---	110.3	140.0	154.4	159.5	190.7	220.0	220.8	220.8	226.8
All other female											
All ages	3.4	4.5	4.9	6.3	9.5	10.5	10.5	11.5	12.1	12.5	13.4
Under 25 years	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0
25–34 years	1.1	0.7	0.7	0.9	0.5	0.8	0.6	0.6	0.7	0.7	0.8
35–44 years	2.6	3.3	3.5	6.1	9.4	9.8	8.7	8.8	8.6	8.4	8.3
45–54 years	8.7	10.9	12.5	16.7	23.3	28.1	28.2	31.2	32.1	30.7	34.4
55–64 years	15.5	19.6	20.2	25.8	35.3	39.4	40.1	46.7	53.6	52.3	54.7
65 years and over	18.3	25.0	27.2	29.3	49.0	51.5	51.8	55.0	54.8	62.6	66.0
65–74 years	17.8	25.2	22.5	29.5	47.7	53.7	50.5	55.6	54.4	62.9	65.8
75–84 years	19.6	25.0	35.8	27.7	53.2	49.3	55.3	54.8	59.2	64.4	70.1
85 years and over	19.2	23.5	44.7	34.7	45.8	42.1	51.2	51.1	43.3	55.5	56.2

See footnotes at end of table.

Table 32. Death rates due to cancer of the respiratory system, according to race, sex, and age: United States, selected years 1950–76—Continued

(Data are based on the national vital registration system)

Race, sex, and age	Year										
	1950	1955	1960	1965	1970	1971	1972[1]	1973	1974	1975	1976
Black female:	Number of deaths per 100,000 resident population										
All ages	3.4	---	4.9	6.3	10.1	11.1	10.9	12.1	12.7	13.4	14.5
Under 25 years	0.1	---	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
25–34 years	1.2	---	0.8	0.9	0.5	0.9	0.6	0.5	0.7	0 7	0.8
35–44 years	2.7	---	3.4	6.3	10.5	10.4	9.9	9.7	9.3	9.5	9.1
45–54 years	8.8	---	12.8	17.6	25.3	30.0	30.5	33.7	34.9	33.6	38.4
55–64 years	15.3	---	20 7	26.0	36.4	41.2	41.6	47.9	54.8	55.0	57.9
65 years and over	17.2	---	25.3	27.3	50.0	51.8	49.2	54.2	55 0	63.2	66.6
65–74 years	16.4	---	20.7	28.2	49 3	53.5	47.3	55.9	54.9	63.7	66.3
75–84 years	19.2	---	33.1	24.5	52.6	49.8	52.3	53.1	60.5	65 5	73.9
85 years and over		---	44.7	30.4	47.6	44.9	54.1	45 0	38 6	53.5	49.5

[1] Based upon a 50-percent sample of deaths.
[2] Includes all races and both sexes.

NOTE: The ICDA revisions and code numbers are for 1950 and 1955, Sixth Revision, Nos. 160-164; for 1960 and 1965, Seventh Revision, Nos. 160-164; and for 1970-76, Eighth Revision, Nos. 160-163.

SOURCES: National Center for Health Statistics: *Vital Statistics of the United States,* Vol. II, for data years 1950–1973, Washington U S. Government Printing Office; for data years 1974–1976, Public Health Service, DHEW, Hyattsville, Md. To be published; U.S. Bureau of the Census: Population estimates and projections *Current Population Reports* Series P–25, Nos. 310, 519, 529, and 643 Washington. U.S. Government Printing Office, June 1965, Apr. 1974, Sept. 1974, and Jan. 1977, General population characteristics, United States summary, 1960 and 1970. *U.S. Census of Population.* Final reports PC(1)–B1, *Nonwhite Population by Race,* Special report P–E No. 3B. Washington U.S Government Printing Office, 1961, 1972, and 1951; National Center for Health Statistics: Data computed by the Division of Analysis from data compiled by the Division of Vital Statistics

Table 33. Death rates due to diseases and conditions and external causes for persons under 25 years of age, according to race, sex, and age: United States, 1976

(Data are based on the national vital registration system)

Sex and age	All causes				Diseases and conditions ICDA Nos. 000-796[1]				External causes ICDA Nos. E800-E999[2]			
	All races	White	All other		All races	White	All other		All races	White	All other	
			Total	Black			Total	Black			Total	Black
Both sexes	Number of deaths per 10,000 resident population											
All ages under 25 years	12.4	11.3	18.7	19.5	7.3	6.4	12.5	13.2	5.1	4.9	6.2	6.3
Under 6 years	30.9	26.8	50.2	54.0	27.6	23.9	45.1	48.6	3.3	2.9	5.1	5.4
Under 1 year	159.5	135.6	278.1	301.4	154.5	131.4	268.9	291.6	5.0	4.2	9.3	9.8
1–5 years	6.4	5.8	8.8	9.3	3.4	3.2	4.4	4.7	2.9	2.6	4.4	4.6
6–11 years	3.1	2.9	3.9	4.0	1.5	1.5	1.6	1.6	1.6	1.4	2.3	2.4
12–17 years	6.0	5.9	6.4	6.2	1.8	1.7	2.4	2.5	4.2	4.2	3.9	3.7
12–15 years	4.4	4.3	4.9	4.8	1.6	1.5	2.2	2.3	2.7	2.7	2.7	2.5
16–17 years	9.1	9.1	9.4	9.0	2.1	2.0	2.9	3.0	7.0	7.1	6.5	6.1
18–24 years	12.9	12.0	17.9	18.6	3.0	2.7	5.2	5.6	9.8	9.4	12.7	13.0
Male												
All ages under 25 years	15.8	14.5	23.0	24.0	8.3	7.2	13.9	14.7	7.5	7.2	9.2	9.3
Under 6 years	34.3	30.0	54.9	59.2	30.5	26.6	49.2	53.2	3.8	3.4	5.7	6.0
Under 1 year	176.3	151.2	301.2	328.3	170.8	146.6	291.4	317.8	5.5	4.6	9.9	10.5
1–5 years	7.1	6.6	9.8	10.4	3.7	3.4	4.9	5.1	3.5	3.1	5.0	5.2
6–11 years	3.7	3.5	4.9	5.0	1.6	1.6	1.7	1.7	2.1	1.9	3.2	3.3
12–17 years	8.1	8.0	8.7	8.4	2.1	2.0	2.6	2.6	6.1	6.1	6.1	5.8
12–15 years	5.7	5.6	6.2	6.1	1.8	1.8	2.3	2.3	3.9	3.8	3.9	3.8
16–17 years	12.9	12.8	13.6	13.2	2.5	2.3	3.3	3.2	10.4	10.4	10.3	9.9
18–24 years	19.4	18.2	26.8	27.9	3.7	3.3	6.1	6.6	15.7	14.9	20.7	21.4
Female												
All ages under 25 years	9.0	8.0	14.4	15.1	6.4	5.5	11.2	11.8	2.6	2.5	3.3	3.3
Under 6 years	27.3	23.5	45.3	48.7	24.6	21.1	40.8	43.9	2.7	2.3	4.5	4.8
Under 1 year	141.9	119.2	254.2	273.8	137.3	115.5	245.5	264.7	4.6	3.7	8.7	9.2
1–5 years	5.5	5.1	7.7	8.2	3.2	3.0	3.9	4.2	2.4	2.1	3.8	4.0
6–11 years	2.5	2.4	3.0	3.1	1.4	1.4	1.5	1.6	1.1	1.0	1.5	1.5
12–17 years	3.7	3.7	4.0	3.9	1.5	1.4	2.3	2.3	2.2	2.3	1.8	1.6
12–15 years	3.0	2.9	3.5	3.4	1.4	1.3	2.1	2.2	1.6	1.6	1.4	1.3
16–17 years	5.2	5.2	5.2	4.9	1.7	1.6	2.6	2.7	3.5	3.7	2.6	2.2
18–24 years	6.4	5.8	9.6	10.0	2.4	2.1	4.4	4.7	4.0	3.8	5.2	5.3

[1] Deaths are coded according to the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] Accidents, poisonings, and violence.

SOURCE: National Center for Health Statistics: Data computed by the Division of Analysis from data compiled by the Division of Vital Statistics.

D. Determinants of Health

Beginning soon after conception and throughout life, decisions are made that affect people's health. Nutrition, exercise, and medical care, as well as the use of cigarettes, alcohol, and medications all play a role in determining health.

The population's health can also be affected adversely by pollutants in the environment or favorably by efforts to minimize exposure to various health hazards. In addition, spontaneous circumstances over which individuals have virtually no control also influence health.

Efforts made even prior to birth can influence health status. For instance, early prenatal care reduces the incidence of fetal and childhood morbidity and mortality. In 1976, nearly three-fourths of pregnant women received prenatal care by the end of the first trimester of their pregnancy, compared with a little more than two-thirds of the women in 1970.[1] The proportion of women receiving no care or care only during the last trimester of pregnancy declined slightly from 8 percent to 6 percent during 1970–76.

In 1976, more than 80 percent of women 25–34 years of age received early prenatal care, while women younger and older than that group more often tended to delay receiving care. Black women were less likely to receive early care than were white women. Differences in the proportions of white and black women getting early care were smallest at the youngest ages. By 20–24 years of age, however, the proportion of white women receiving early prenatal care was about 30 percent higher than the proportion of black women. Young women under 15 years of age face the greatest risks related to pregnancy outcome, and they are the most likely to delay care until the seventh month or receive no care at all.

Immunization provides further protection against childhood morbidity and mortality. In 1976, 34 percent of children 1–4 years of age were not protected against rubella, and 32 percent were not protected against measles. Almost 4 percent of these young children had not received any diphtheria-tetanus-pertussis immunization, and nearly 10 percent had not received any doses of polio vaccine.

In general, white children were more often protected from these diseases than were children of all other races. Children living inside central cities of standard metropolitan statistical areas (SMSA's) were the least likely to be adequately immunized when compared to children living outside the central city and those not living in SMSA's. Within the central city, two-thirds of children 1–4 years of age living in nonpoverty areas had been vaccinated against measles compared with half the children in the poverty areas. Similarly, about 60 percent of the children living in nonpoverty areas were adequately vaccinated against polio compared with 38 percent in poverty areas.

The problem of malnutrition in the United States is not associated as much with underconsumption and poverty as with overconsumption. Overconsumption of fats, sugar, salt, and alcohol has been linked to the major causes of death (i.e., heart disease, cancer, stroke, diabetes, arteriosclerosis, and cirrhosis of the liver). In the first Health and Nutrition Examination Survey 1971–74, food consumption behavior was recorded for a sample of the white and black civilian noninstitutionalized population. Selected findings include: milk consumption is higher for children under 12 years of age than for older people; less than one-tenth of the children 6–17 years of age eat eggs at least once a day compared with more than one-fifth of the elderly 65–74 years of age; meat and poultry are eaten every day by four-fifths of the population, while fish and shellfish are seldom or never eaten by close to half of the population; fruits and vegetables are consumed more

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NOTE: Unless otherwise noted, data are from the ongoing data-collection systems of the National Center for Health Statistics. In many instances the data have been published in the *Vital and Health Statistics* series.

[1] The data presented are drawn from individual birth certificates, hence the figures shown technically refer to numbers of births rather than to numbers of mothers. However, since very few women have more than one child in a given year, for ease and clarity in writing, the terms "women" and "mothers" are used rather than live births in the ensuing discussion.

than once a day by nearly three-fifths of the population; and salty snacks are eaten much more frequently by black teenagers than by white teenagers. Even though these data cannot be used to describe the overall eating habits of Americans, they may serve as a basis for future statements as to the proportion of Americans consuming well-balanced diets.

Dieting is a common approach toward maintaining good health and reducing weight. At times, however, good health may by sacrificed in the process of weight control. About two-fifths of the dieting civilian noninstitutionalized population dieted because they believed they were overweight and another fifth because of heart trouble or high blood pressure. Women were more likely than men to diet for weight reasons. Since older and poorer people generally are less healthy than younger and more affluent people, they are more apt to be restricting the intake of certain foods for medical reasons such as diabetes or heart trouble. Among those 45–74 years of age, low fat diets were cited more often than other types of diets. On the other hand, the elderly may not be able to eat certain foods because of trouble with chewing or biting. For people 65–74 years of age, more than a third said they had difficulty eating selected foods.

Being overweight can bring on an assortment of problems, both mental and physical. People may face self-image problems if they believe they are overweight, whether or not in fact they are, and people tend to act on the basis of their self-perceptions. Women perceived themselves to be overweight more than men and according to actual examination were more often obese. In 1974, women 45–64 years of age assessed themselves as overweight more than any other group and were likewise measured, during 1971–74, to be the group with the largest proportion of obese people.

In general, white women assessed themselves as overweight more than black women did, although the proportion of black women who were found to be obese by examination was much higher than the proportion of white women (31 percent versus 22 percent) during 1971–74. Obesity, as defined by physical measurements, is a serious problem and can be a deterrent to good health. Obesity aggravates hypertension; both prevalence and incidence of hypertension increase as weight increases. Conversely, weight reduction can lower an elevated blood pressure.

Exercise and sports participation are recognized as a means of maintaining good health, especially of the cardiovascular system. In the early 1970's, an estimated 57 percent of the civilian noninstitutionalized population 12–74 years of age said they were very active or that they exercised a lot, while only 6 percent said they were inactive or that they did not exercise or exercised only a little. In another study in 1975, 55 percent of those 20 years of age and over rated themselves as more active than others their same age. When asked about exercise on a weekly basis, only 49 percent said they regularly exercised. Almost 80 percent of young people 12–17 years of age rated themselves as very active, more than any other age group. A higher percent of the elderly rated themselves as inactive when compared to any other group.

Another factor that affects health is smoking. The evidence is virtually uncontested that smokers have a higher risk of cardiovascular diseases and lung cancer than nonsmokers. Death rates are higher for current smokers than for former smokers, and rates for former smokers are higher than for those who never smoked. Recent evidence suggests that risks associated with smoking low tar and nicotine cigarettes may be less serious than those associated with smoking cigarettes high in tar and nicotine content.[2]

Although the Surgeon General's report on the effects of cigarette smoking is more than a decade old, many people continue to smoke. The proportion of women who were current smokers declined by 6 percent over the 11-year period from 1965 to 1976. However, this small change masks a large variation by age; 10 percent of women 65 years of age and over smoked in 1965 compared with

[2]Hammond, E. C., Garfinkel, L., Seidman, H., and Lew, E. A.: "Tar" and Nicotine Content of Cigarette Smoke in Relation to Death Rates. Paper presented to the Conference on the Origins of Human Cancer, Cold Springs Harbor Laboratory, New York, Sept. 14, 1976.

13 percent in 1976, an increase of a third, while the proportion of younger women, 20–24 years of age, who were current smokers declined by 18 percent from 42 percent to 34 percent.

The number of cigarettes smoked per day varies by sex, race, and age. The heaviest smokers in 1976 were white men 35–44 years of age; nearly a fifth of them smoked more than 25 cigarettes per day.

The current data on the smoking habits of younger people indicate that fewer young men are starting to smoke as teenagers than a decade earlier. In 1965, 32 percent of men 20–24 years of age had never smoked cigarettes compared with 42 percent of men 20–24 years of age in 1976. Among young women, there was little change. In 1976, about 55 percent of young women 20–24 years of age had never smoked cigarettes.

Among high school seniors in 1977, about 10 percent reported that they smoked at least a pack of cigarettes per day. Nearly 30 percent said they smoked every day during the month prior to interview. The amount of smoking among high school senior girls was on the increase, but now appears to have stabilized. About a fifth of the seniors, with virtually no sex differential, smoked half a pack a day or more in the month prior to interview.

Available data also show that people who drink alcohol run a higher risk of certain cancers of the upper respiratory and digestive tract than those who do not drink. Although alcohol itself is not the only risk factor involved, "people drinking large quantities of alcohol may well have nutritional deficiencies leaving them more susceptible to the action of alcohol."[3] While what constitutes problem or excessive drinking is hard to define, nearly 18 percent of the civilian noninstitutionalized population 45–54 years of age said they drank every day or just about every day, compared with 45 percent who said they drank fewer than 4 times per month. Of the young adults 18–24 years of age who had had at least one drink during the year prior to interview, 19 percent indicated that when they did drink, they usually drank four or more glasses of wine, beer, or liquor per day.

The drinking patterns of high school seniors show that about 71 percent of the seniors in 1977 said they drank alcohol during the month prior to interview. Six percent said they drank every day during the period. The proportions indicate some upward shifts from the preceding 2 years.

Dependence on sleeping aids may be a further example of substance abuse. For men and women 20 years of age and over in 1976, use increased with age and was greater for women than for men.

An estimated 20 percent of the civilian noninstitutionalized male population drank five cups of coffee or more per day. In recent studies, high caffeine levels have been related to increased health hazards. It was found that people who drink more than four cups of coffee or nine cups of tea per day have a double risk of having ventricular premature beats (VPB) when compared to those who have a few cups or none.[4] Such arrythmias have been linked to subsequent heart attacks.

In recent years there has been a significant increase in the proportion of high school seniors who report smoking marijuana. In 1977, 56 percent of high school seniors said that they had ever smoked marijuana compared with 47 percent of the seniors in 1975. Similarly, the proportion reporting use in the month prior to interview increased from 27 percent in 1975 to 35 percent in 1977. Daily use of marijuana likewise increased, from 6 percent to 9 percent over the 2 years. Use of other illicit drugs remained relatively stable during this time. Less than 10 percent of seniors reported use of stimulants (8–9 percent), sedatives (5 percent), or tranquilizers (4–5 percent) in the month prior to interview. However, use of heroin, cocaine, hallucinogens, inhalants, or other opiates increased slightly between 1976 and 1977.

Two other factors that have an impact on health are occupational hazards and environ-

[3] National Cancer Institute: *Cancer Rates and Risks,* 2nd ed., by D. L. Levin, et al. DHEW Pub. No. (NIH) 76–691. Public Health Service. Washington. U.S. Government Printing Office, 1974.

[4] Arrhythmia linked to too much coffee or tea. *Medical World News,* May 1, 1978. p. 52.

mental quality. Substances that have been found to be harmful include lead, vinyl chloride, fluorocarbons, and polychlorinated biphenyls (PCB's). Currently, the hazardous effects of the pesticide Kepone are being examined. The specific cause of chronic ill effects from some type of exposure in the work environment is often difficult to detect, even when effects are severe. The afflicted individual has trouble remembering and isolating experiences that may have occurred years earlier, and exposure may have been from a wide variety of sources. Additionally, individuals may have very different tolerances.

Air quality, however, can be measured by emissions estimates. Since 1970, emissions of particulates decreased by 40 percent mainly because of improvements in industrial processes. On the other hand, nitrogen oxide emissions have increased because of emissions from highway vehicles and from increased fuel combustion by electric utilities.

Fluoridated water has been shown to be effective in the prevention of tooth decay. In 1975, almost half of the United States population was served with dentally-significant fluoridated water compared with only about two-fifths of the population in 1967. Nearly all of the fluoridation is from chemical additions to the water supply rather than from natural occurrence. The proportion of people served by fluoridated water supplies varies dramatically by geographic division, from 66 percent in the East North Central States to 23 percent in the Pacific States. In five States (i.e., Connecticut, Illinois, Michigan, Texas, and Colorado) and the District of Columbia more than 75 percent of the population were served with fluoridated water.

Finally, natural disasters and accidents can have severe effects upon an individual's health. In particular, evidence of psychological damage has been noted in the aftermath of physical disasters.[5] On February 9, 1971, an earthquake struck the San Fernando Valley of California. For 2 years following the disaster, sleep disturbances including nightmares and phobias were noted in young children. On February 26, 1972, in Buffalo Creek, W. Va., a dam burst, and 127 people were killed. Their bodies were strewn all over the town. After a law suit was brought against the mining company, $6 million was awarded for psychological damages. Pervasive depression and phobias continued for 2 years among the residents of Buffalo Creek.

In 1976, approximately 101,000 deaths were caused by accidents. Accidents, although preventable to a certain degree, nevertheless were the leading cause of death for people 1–34 years of age in 1976. More than a third of all deaths among young people 15–24 years of age were the result of motor vehicle accidents. Based on sample data from the Health Interview Survey, half of the episodes of injuries in 1975 occurred to people at home; for people 65 years of age and over, three-fourths of the episodes occurred at home.

[5] Division of Special Mental Health Programs, Mental Health Disaster Assistance Section, Alcohol, Drug Abuse, and Mental Health Administration, Public Health Service: Personal communication, 1978.

Table 34. Live births, according to month of pregnancy prenatal care began and race: United States, reporting areas, 1970–76

(Data are based on the national vital registration system)

Race and year	All live births	Month of pregnancy prenatal care began								No prenatal care
		1st or 2nd month	3rd month	4th month	5th month	6th month	7th month	8th month	9th month	
	Percent distribution									
Total[1]										
1970	100.0	41.2	26.7	12.1	7.3	4.8	3.4	2.0	0.8	1.7
1971	100.0	41.4	27.2	12.2	7.2	4.7	3.1	1.8	0.7	1.6
1972	100.0	42.4	27.0	12.0	7.1	4.5	3.0	1.7	0.7	1.6
1973	100.0	43.8	27.0	11.6	6.8	4.2	2.8	1.7	0.7	1.5
1974	100.0	44.9	27.2	11.4	6.4	3.9	2.6	1.6	0.6	1.4
1975	100.0	45.5	26.8	11.4	6.3	3.9	2.6	1.5	0.6	1.3
1976	100.0	46.7	26.7	11.0	6.1	3.7	2.4	1.4	0.6	1.4
White										
1970	100.0	44.5	27.9	11.3	6.2	3.9	2.7	1.6	0.7	1.2
1971	100.0	44.7	28.3	11.3	6.1	3.8	2.6	1.5	0.6	1.1
1972	100.0	45.7	27.9	11.1	6.0	3.7	2.4	1.4	0.6	1.1
1973	100.0	47.1	27.8	10.6	5.7	3.4	2.3	1.4	0.6	1.1
1974	100.0	48.0	27.9	10.4	5.4	3.2	2.2	1.3	0.5	1.0
1975	100.0	48.5	27.4	10.5	5.4	3.2	2.2	1.3	0.5	1.0
1976	100.0	49.6	27.2	10.1	5.2	3.1	2.0	1.2	0.5	1.1
Black										
1970	100.0	23.7	20.6	16.2	13.1	9.8	6.9	3.8	1.5	4.4
1971	100.0	24.8	21.8	16.5	13.0	9.2	6.1	3.3	1.2	4.0
1972	100.0	26.4	22.6	16.7	12.5	8.5	5.5	3.0	1.1	3.6
1973	100.0	28.2	23.2	16.3	11.9	7.9	5.0	2.8	1.2	3.4
1974	100.0	30.1	23.8	16.1	11.3	7.3	4.7	2.6	1.1	3.0
1975	100.0	31.6	24.2	16.0	10.8	6.9	4.4	2.4	1.0	2.7
1976	100.0	33.2	24.5	15.7	10.3	6.4	3.9	2.2	0.9	2.9

[1] Includes all other races not shown separately.

NOTE: In 1970 and 1971 month of pregnancy prenatal care began was reported by 39 States and the District of Columbia, in 1972 by 40 States and the District of Columbia, in 1973–75 by 42 States and the District of Columbia, and in 1976 by 44 States and the District of Columbia. Figures for 1970 and 1971 are based on a 50-percent sample of births; for 1972–76 they are based on 100 percent of births in selected States and on a 50-percent sample of births in all other States.

SOURCE: National Center for Health Statistics: *Vital Statistics of the United States,* Vol. 1, 1970–1974, Washington. U.S. Government Printing Office; Vol. 1, 1975–1976. Public Health Service, DHEW, Hyattsville, Md. To be published.

Table 35. Live births, according to month of pregnancy prenatal care began and race and age of mother: United States, reporting areas, 1976

(Data are based on the national vital registration system)

Race and age of mother	Number of live births in reporting areas	All live births	Month of pregnancy prenatal care began[1]				No prenatal care
			1st or 2nd month	3rd month	4th-6th month	7th-9th month	
		Percent distribution					
Total[2]	2,859,675	100.0	46.7	26.7	20.8	4.3	1.4
Under 15 years	10,845	100.0	13.8	18.0	46.7	15.7	5.7
15–19 years	504,660	100.0	28.2	25.5	35.5	8.3	2.6
15 years	28,921	100.0	18.5	21.6	44.2	11.9	3.8
16 years	64,386	100.0	21.4	23.4	41.9	10.4	3.0
17 years	101,670	100.0	24.7	25.2	38.4	8.8	2.8
18 years	138,624	100.0	28.6	25.8	35.1	8.0	2.5
19 years	171,059	100.0	34.1	26.8	30.2	6.8	2.1
20–24 years	985,273	100.0	46.6	27.4	20.5	4.2	1.4
25–29 years	877,675	100.0	55.6	26.7	14.3	2.6	0.9
30–34 years	353,488	100.0	53.4	26.9	15.8	2.9	1.0
35–39 years	104,479	100.0	45.1	27.2	21.3	4.6	1.8
40 years and over	23,255	100.0	35.6	26.3	28.5	6.6	3.0
White	2,314,210	100.0	49.6	27.2	18.4	3.7	1.1
Under 15 years	4,552	100.0	14.4	17.7	44.3	17.3	6.3
15–19 years	354,709	100.0	30.2	26.5	33.4	7.7	2.2
15 years	15,818	100.0	18.9	22.3	43.0	12.2	3.7
16 years	40,574	100.0	22.0	24.5	40.3	10.4	2.8
17 years	70,003	100.0	26.1	26.1	36.9	8.5	2.4
18 years	99,785	100.0	30.2	26.8	33.5	7.4	2.1
19 years	128,529	100.0	36.3	27.7	28.1	6.1	1.8
20–24 years	801,188	100.0	49.3	27.9	18.2	3.6	1.1
25–29 years	752,880	100.0	57.6	26.9	12.7	2.2	0.7
30–34 years	298,965	100.0	55.3	27.1	14.2	2.5	0.8
35–39 years	83,886	100.0	47.2	27.7	19.4	4.1	1.5
40 years and over	18,030	100.0	37.5	26.7	26.9	6.2	2.7
Black	468,450	100.0	33.2	24.5	32.4	7.0	2.9
Under 15 years	6,118	100.0	13.5	18.2	48.6	14.4	5.3
15–19 years	139,756	100.0	23.4	23.1	40.7	9.3	3.5
15 years	12,565	100.0	18.2	21.0	45.7	11.4	3.8
16 years	22,601	100.0	20.5	21.7	44.5	10.0	3.2
17 years	29,788	100.0	21.7	23.3	41.9	9.3	3.8
18 years	35,922	100.0	24.6	23.4	39.5	9.0	3.5
19 years	38,880	100.0	27.2	24.3	37.0	8.4	3.2
20–24 years	162,368	100.0	34.5	25.1	31.0	6.6	2.8
25–29 years	98,705	100.0	42.7	25.4	24.8	4.9	2.2
30–34 years	40,970	100.0	41.3	25.5	25.8	5.2	2.2
35–39 years	16,168	100.0	34.7	25.0	30.5	6.5	3.3
40 years and over	4,365	100.0	28.3	25.4	34.6	7.8	3.9

[1] In 1976, month of pregnancy during which prenatal care began was reported by 44 States and the District of Columbia.

[2] Includes all other races not shown separately.

NOTE: Percents are based only on records for which month of pregnancy prenatal care began is stated.

SOURCE: National Center for Health Statistics: *Vital Statistics of the United States, 1976,* Vol. I. Public Health Service, DHEW, Hyattsville, Md. To be published.

Table 36. Immunization and infection status of children 1–4 years of age: United States, 1970–76

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Year	Population 1-4 years in thousands	History of—								
		Measles		Rubella		DTP[1] vaccination		Polio vaccination		Mumps vaccination
		Infection	Vaccination	Infection	Vaccination	3 or more doses	0 doses	3 or more doses	0 doses	
		Percent of population								
1970	14,123	8.1	57.2	14.4	37.2	76.1	7.0	65.9	10.8	[2]
1971	14,112	8.7	61.0	13.9	51.2	78.7	5.8	67.3	8.6	[2]
1972	13,905	7.4	62.2	12.3	56.9	75.6	6.9	62.9	10.7	[2]
1973	13,874	6.3	61.2	12.8	55.6	72.6	6.2	60.4	13.9	34.7
1974	13,210	5.1	64.5	12.2	59.8	73.9	5.2	63.1	11.7	39.4
1975	12,729	4.8	65.5	11.3	61.9	75.2	4.5	64.8	10.3	44.4
1976[3]	12,276	4.3	65.9	10.0	61.7	71.4	3.7	61.6	9.5	48.3

[1] Diphtheria-Tetanus-Pertussis.

[2] Mumps vaccination was first reported in 1973.

[3] Beginning in 1976, the category "don't know" was added to response categories. This option resulted in some forced positive answers which were particularly apparent for those vaccinations which require multiple dose schedules, i.e., polio and DTP.

NOTE: The proportions of the population ever infected or vaccinated are not mutually exclusive.

SOURCE: Center for Disease Control: *United States Immunization Survey, 1976.* DHEW Pub. No. (CDC) 78–8221. Public Health Service. Atlanta, Ga., Nov. 1977.

Table 37. Immunization and infection status of children under 10 years of age, according to specific disease, color, and age: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Color and age	Population in thousands	History of—								
		Measles		Rubella		DTP[1] vaccination		Polio vaccination		Mumps vaccination
		Infection	Vaccination	Infection	Vaccination	3 or more doses	0 doses	3 or more doses	0 doses	
		Percent of population								
Total										
All ages under 10 years	32,632	7.6	65.0	14.5	60.7	71.1	4.7	63.4	9.5	45.5
Under 1 year	3,060	1.1	6.8	2.4	6.5	29.5	26.7	22.9	34.1	4.7
1–4 years	12,276	4.3	65.9	10.0	61.7	71.4	3.7	61.6	9.5	48.3
5–9 years	17,296	11.0	74.7	19.9	69.5	78.3	1.6	71.8	5.1	50.7
White										
Under 1 year	2,542	0.8	6.0	2.2	6.0	31.6	26.0	24.9	31.5	3.9
1–4 years	10,099	4 0	68.3	10.2	63.8	75.3	3.4	66.2	7.8	50.3
5–9 years	14,403	10.4	77.1	20.3	70.8	81.5	1.3	75.8	3.9	52.3
All other										
Under 1 year	518	2.4	10.4	3.0	9.1	19.0	30.5	12.9	47.2	8.4
1–4 years	2,177	5.5	54.8	9.2	51.5	53.2	5.1	39.9	17.5	38.7
5–9 years	2,894	14.3	62.5	17.5	62.9	62.7	3.0	52.2	10.9	42.3
		Percent of population during year prior to interview								
Total										
All ages under 10 years	32,632	1.5	13.9	2.8	13.4	---	---	4.6	55.0	10.4
Under 1 year	3,060	1.1	6.8	2.4	6.5	---	---	22.9	34.1	4.7
1–4 years	12,276	1.7	24.0	3.8	23.1	---	---	5.8	42.5	18.5
5–9 years	17,296	1.5	7.9	2.2	7.8	---	---	0.6	67.6	5.6
White										
Under 1 year	2,542	0.8	6.0	2.2	6.0	---	---	24.9	31.5	3.9
1–4 years	10,099	1.5	23.9	3.9	23.3	---	---	6.2	44.5	18.5
5–9 years	14,403	1.4	7.3	2.1	7.0	---	---	0.6	69.3	4.9
All other										
Under 1 year	518	2.4	10.4	3.0	9.1	---	---	12.9	47.2	8.4
1–4 years	2,177	2 3	24.5	3.2	21.7	---	---	4.0	32.9	18.2
5–9 years	2,894	1.9	10.9	2.8	11.5	---	---	0.8	59.1	8.9

[1] Diphtheria-Tetanus-Pertussis.

NOTE: The proportions of the population ever infected or vaccinated are not mutually exclusive.

SOURCE: Center for Disease Conrol: *United States Immunization Survey, 1976.* DHEW Pub. No. (CDC) 78–8221. Public Health Service. Atlanta, Ga., Nov. 1977.

Table 38. Immunization and infection status of children 1–9 years of age, according to specific disease, age, metropolitan status, color, and poverty level: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Age, metropolitan status, color, and poverty level	Population in thousands	History of—								
		Measles		Rubella		DTP[1] vaccination		Polio vaccination		Mumps vaccination
		Infection	Vaccination	Infection	Vaccination	3 or more doses	0 doses	3 or more doses	0 doses	
		Percent of population								
1-4 years										
Central cities of SMSA	3,523	5.8	62.5	9.4	59.5	68.1	4.4	53.8	10.7	45.6
White	2,334	6.0	66.8	9.1	63.4	71.5	4.4	61.7	8.4	47.9
All other	1,189	5.4	54.0	10.1	51.7	49.4	4.4	38.4	15.4	41.0
Poverty areas	948	7.2	50.7	10.7	51.5	44.6	7.1	38.0	15.6	37.9
Nonpoverty areas	2,575	5.2	66.8	9.0	62.4	71.2	3.5	59.6	9.0	48.4
Remaining areas of SMSA	4,549	3.4	67.2	9.2	63.5	75.7	2.9	65.3	7.7	50.7
Poverty areas	314	6.2	56.4	17.5	51.2	72.0	10.1	61.5	14.7	35.2
Nonpoverty areas	4,235	3.2	68.1	8.6	64.5	75.9	2.4	65.6	7.2	51.8
Outside SMSA	4,205	4.0	67.3	11.3	61.5	72.9	4.0	63.9	10.5	47.9
5-9 years										
Central cities of SMSA	4,712	13.2	71.4	18.3	68.3	72.8	1.8	66.3	5.5	46.4
White	3,159	12.5	76.3	19.3	70.0	78.4	1.6	73.3	3.7	49.3
All other	1,552	14.6	61.4	16.3	64.9	61.2	2.2	52.1	9.3	40.7
Poverty areas	1,149	18.7	61.2	18.6	63.1	58.0	2.7	54.4	9.2	38.1
Nonpoverty areas	3,562	11.4	74.7	18.2	70.0	77.5	1.6	70.2	4.3	49.1
Remaining areas of SMSA	6,776	9.3	77.3	17.4	71.9	80.6	1.0	74.1	3.9	55.3
Poverty areas	417	19.0	70.5	22.0	61.5	78.3	1.1	71.4	5.0	39.1
Nonpoverty areas	6,360	8.6	77.8	17.1	72.5	80.7	1.0	74.3	3.8	56.4
Outside SMSA	5,809	11.3	74.4	24.0	67.7	80.2	2.2	73.5	6.1	48.6

[1] Diphtheria-Tetanus-Pertussis.

NOTE: The proportions ever infected or vaccinated are not mutually exclusive.

SOURCE: Center for Disease Control: *United States Immunization Survey, 1976.* DHEW Pub. No. (CDC) 78–8221. Public Health Service. Atlanta, Ga., Nov. 1977.

Table 39. Consumption of selected food groups, according to race, frequency of intake, type of food, and age: United States, 1971-74

(Data are based on interviews of a sample of the civilian noninstitutionalized population)

Food group and age	Both races				White				Black			
	2 or more times per day	Once a day	1-6 times per week	Seldom or never	2 or more times per day	Once a day	1-6 times per week	Seldom or never	2 or more times per day	Once a day	1-6 times per week	Seldom or never
	Percent of persons											
Whole milk												
All ages 1–74 years	36.4	21 2	21 9	20 5	37 5	21 2	21 0	20 3	27.9	21 3	29.3	21 5
1–5 years	74 4	11 6	7 8	6 3	75 3	11.0	7 1	6 5	68.0	15 2	11 9	4.9
6–11 years	69 6	19 1	7 5	3 8	72 8	17 4	5 9	3.9	50 7	28 9	17 3	3.2
12–17 years	56.5	20 1	15 7	7 7	59 8	18.0	14 3	8.0	36.0	33.3	24.5	6 1
18–44 years	26.2	22 4	27 4	24 0	27 6	22 9	26 0	23 4	13.8	18.3	38.5	29.3
45–64 years	15 8	23 4	28 1	32 7	16 3	24.3	27 4	32.0	9 9	14.6	35.6	39 9
65–74 years	15 5	25 7	26.0	32 8	16.0	26 3	25 7	32.0	10 5	20 2	28.9	40.3
Meat and poultry												
All ages 1–74 years	32 5	51 7	15 2	0 6	31 8	52 5	15 1	0 6	38 4	44 7	16.3	0.5
1–5 years	31 5	53 9	14 2	0 3	30 4	55 4	13 9	0 3	38.3	45 7	15.9	0.2
6–11 years	32 1	56 8	10 8	0 4	30 4	58 2	11 0	0.4	41 7	48 3	9 8	0 3
12–17 years	36 5	48 6	14 4	0 5	35 5	49.6	14 5	0.5	43.2	42.2	14.0	0 7
18–44 years	37 9	49 1	12 6	0 5	37 0	49 9	12 6	0 5	44 7	42.4	12 4	0.5
45–64 years	26.0	53 7	19 7	0 7	26 1	54 2	19 1	0 7	24 7	48.8	25 8	0.7
65–74 years	18 1	53 6	26 8	1 5	18 3	54 6	25.6	1 5	16.6	43 0	39 3	1 1
Fish and shellfish												
All ages 1–74 years	0 1	0 9	54 2	44 8	0 1	0 9	53 5	45 5	0 1	0 9	59.4	39 6
1–5 years	0 1	0 7	51 7	47 5	0 1	0 7	50 2	49 0	0.0	1.0	60.0	39.0
6–11 years	0 1	0 7	56 1	43 0	0 2	0 6	54 8	44 4	0.0	1.6	64.3	34 1
12–17 years	0 0	0 9	49 9	49.2	0 0	0 8	49 2	49 9	0.0	1.1	54 4	44 5
18–44 years	0 0	1 0	54 6	44 3	0 0	1 1	54 2	44 7	0.1	0.5	58.3	41.0
45–64 years	0 0	1 1	57 7	41 2	0 0	1.1	57 2	41 6	0.0	1.0	62.5	36.5
65–74 years	0 1	0 7	47 7	51 5	0 1	0 7	46.9	52.3	0 0	0 6	56.5	42.9
Eggs												
All ages 1–74 years	0 3	15 4	66 6	17 6	0 3	14 6	67 3	17 8	0.5	22 0	61 5	16.0
1–5 years	0.4	17 4	69.8	12.4	0.4	17.2	69.6	12 9	0.8	18.5	71.0	9.7
6–11 years	0 1	9 7	74 3	15 8	0 0	8 7	75 2	16.1	1 0	16 2	68.5	14.2
12–17 years	0 3	8 7	65 3	25 7	0 3	7 7	65 5	26.5	0 4	14 9	63.7	21.0
18–44 years	0 3	16.1	66.3	17.3	0.3	14.9	67.4	17.4	0.4	26.3	56.9	16.4
45–64 years	0 3	18 7	65 0	16.0	0 4	18.2	65 4	16 0	0.2	24 1	60 0	15.7
65–74 years	0.5	21 4	58 8	19.3	0.5	20 6	59 6	19.3	0 3	29.9	50.3	19.5

All fruits and vegetables												
All ages 1–74 years	59.1	31.4	9.1	0.4	60.9	30.8	8.0	0.4	45.4	35.9	17.9	0.7
1–5 years	64.6	27.1	7.8	0.5	66.7	25.9	6.9	0.6	52.4	34.1	13.4	0.0
6–11 years	63.6	29.5	6.8	0.2	65.0	28.7	6.2	0.2	55.4	34.2	10.4	0.0
12–17 years	58.0	30.8	10.8	0.4	59.5	30.6	9.5	0.4	48.7	31.8	18.9	0.6
18–44 years	54.0	35.8	9.9	0.4	55.5	35.5	8.7	0.3	40.7	38.8	19.7	0.9
45–64 years	63.2	28.0	8.5	0.4	65.3	27.1	7.2	0.4	41.0	36.4	21.6	1.1
65–74 years	62.4	27.0	9.6	1.0	64.5	26.2	8.5	0.9	40.3	35.5	21.6	2.6
Cereals												
All ages 1–74 years	0.8	15.9	44.8	38.5	0.7	16.2	44.6	38.5	1.2	13.8	46.8	38.2
1–5 years	2.4	32.6	56.7	8.4	2.3	32.1	56.8	8.7	2.3	35.2	55.9	6.6
6–11 years	1.9	28.8	60.9	8.4	2.0	29.2	60.4	8.4	1.7	26.1	63.8	8.4
12–17 years	1.4	16.0	51.8	30.9	1.1	16.6	50.7	31.6	3.2	12.2	58.4	26.1
18–44 years	0.1	8.0	38.1	53.8	0.1	8.2	38.3	53.3	0.1	6.0	36.2	57.7
45–64 years	0.3	13.2	40.1	46.3	0.3	13.8	40.1	45.9	1.0	7.3	40.9	50.7
65–74 years	0.7	25.4	41.3	32.6	0.6	26.5	41.7	31.0	0.7	13.1	37.3	48.9
Desserts												
All ages 1–74 years	10.5	30.2	46.5	12.7	10.8	30.4	46.3	12.5	8.9	28.8	48.1	14.1
1–5 years	19.3	40.0	36.9	3.8	20.1	39.4	36.9	3.5	14.3	43.4	36.9	5.4
6–11 years	18.4	44.8	34.4	2.4	19.4	44.5	33.6	2.6	13.1	46.6	39.2	1.1
12–17 years	15.2	32.9	47.1	4.8	14.9	33.4	46.7	5.0	17.1	29.9	49.5	3.5
18–44 years	7.6	24.9	52.9	14.6	7.7	25.2	52.9	14.2	6.6	22.1	53.2	18.1
45–64 years	6.4	27.2	45.9	20.6	6.9	27.9	45.5	19.8	1.0	20.2	50.1	28.7
65–74 years	6.7	27.2	44.9	21.2	6.9	28.0	44.3	20.8	4.6	19.1	51.1	25.2
Salty snacks												
All ages 1–74 years	1.3	10.1	51.5	37.1	1.1	9.6	51.7	37.7	2.7	14.8	50.2	32.4
1–5 years	2.2	12.6	65.3	19.9	2.2	10.7	64.9	22.1	2.0	24.0	67.3	6.7
6–11 years	2.3	19.6	66.0	12.0	1.9	18.6	66.6	12.9	4.9	26.1	62.6	6.4
12–17 years	2.5	15.8	65.8	16.0	1.7	14.4	66.1	17.8	7.5	24.0	63.4	5.2
18–44 years	0.9	9.6	55.5	34.0	0.9	9.6	56.0	33.6	1.2	9.2	51.7	37.8
45–64 years	0.2	4.1	32.3	63.4	0.2	3.8	33.1	62.8	0.1	6.6	23.6	69.6
65–74 years	0.5	2.5	21.4	75.6	0.6	2.6	21.9	74.9	0.6	1.3	16.0	82.1

NOTE: Data are based on findings over a 3-month period.

SOURCE: Division of Health Examination Statistics, National Center for Health Statistics: Data from the Health and Nutrition Examination Survey.

Table 40. Persons 12–74 years of age on a special diet, according to reason for dieting, kind of diet, sex, race, age, and family income. United States, 1971–75

(Data are based on interviews of a sample of the civilian noninstitutionalized population)

Sex, race, age, and family income	Percent of population 12–74 years on a special diet	Reason for diet					Kind of diet				
		Over-weight	Diabetes	Ulcer	Heart trouble or high blood pressure	Other	Low fat	Low salt	Low carbo-hydrate	Low calorie	Other
	Percent of persons										
Total[1,2]	10.6	4.1	1.6	1.0	2.0	3.4	3.8	2.0	2.4	3.9	4.3
Sex											
Male	8.3	2.3	1.2	0 9	2.0	2.7	3.2	1.4	1.6	2.3	3.4
Female	12.8	5.7	2.0	1 0	1.9	4.0	4.3	2.5	3.1	5.3	5.0
Race											
White	10.9	4.2	1.6	1.0	1 9	3.5	3.9	2.0	2.6	4.0	4.5
Black	9.0	3.0	1.7	0.9	2.4	2.0	3.3	2.0	1 2	2.8	2.9
Age											
12–17 years	3 0	1.7	0.3	0.1	–	1 2	0.9	0.3	0 6	1.4	1.2
18–24 years	6.3	3.8	0.2	0.4	0.1	2.2	1.7	0.4	1.0	3.4	2.0
25–34 years	8.0	4.8	0.4	0.8	0.3	2.1	2.0	0.7	1.9	3.9	2.6
35–44 years	11.2	5.1	0.9	1.3	1.5	3.4	3.4	1.3	2 1	4.6	4.2
45–54 years	12.5	4.6	1.7	1.7	2.8	3.9	4 9	2.1	3.3	4 1	6.1
55–64 years	19.7	5.0	4.5	1 4	6.1	6.3	8.3	5.9	4.9	5.7	8.1
65–74 years	21.4	3.3	6.5	1.5	6.3	7.1	9.0	6.1	5.0	5 3	9.1
Family income											
Less than $4,000	12.5	3.2	3.1	1.5	3.3	3.9	4.5	3 1	2.6	3.6	5.3
$4,000–$6,999	11.9	4.6	2.0	0.9	2.8	3.4	3.6	3.2	2.4	4.4	3.8
$7,000–$9,999	11.0	4.2	1.8	1.0	2.1	3.3	3.9	2.1	2.4	4.6	4.3
$10,000–$14,999	9.4	3.8	1.2	1.0	1.2	3.2	3.5	1.4	2 5	3.1	4.3
$15,000 or more	9.3	4.3	0.8	0.5	1.2	3.3	3.3	1.1	2.0	3.9	3.7

[1] Includes all other races not shown separately.

[2] Excludes unknown family income.

SOURCE: Division of Health Examination Statistics, National Center for Health Statistics: *Data from the Health and Nutrition Examination Survey.*

Table 41. Persons 12–74 years of age having trouble chewing or biting certain foods, according to type of food, sex, race, age, and family income: United States, 1971–75

(Data are based on interviews of a sample of the civilian noninstitutionalized population)

Sex, race, age, and family income	Population 12–74 years in thousands	Persons having trouble with—			
		Chewing steaks, chops, or other firm meats	Biting apples or corn on the cob	Biting or chewing any other food	Any of these
		Percent of population			
Total[1,2]	147,154	10.2	11.4	7.5	14.6
Sex					
Male	70,600	9.1	10.2	6.7	13.1
Female	76,554	11.2	12.6	8.2	16.0
Race					
White	129,973	9.6	11.1	6.9	14.2
Black	15,714	15.1	15.0	12.4	18.5
Age					
12–17 years	23,545	2.4	3.1	1.6	4.3
18–24 years	23,809	4.3	3.4	2.9	6.3
25–34 years	26,137	7.2	6.7	5.3	9.9
35–44 years	21,438	9.0	10.2	6.9	13.4
45–54 years	22,366	13.1	14.8	9.5	18.4
55–64 years	17,867	19.4	23.0	14.4	27.8
65–74 years	11,992	25.6	31.8	19.1	35.6
Family income					
Less than $4,000	22,316	21.3	22.4	15.8	27.0
$4,000–$6,999	20,867	14.0	15.5	11.6	19.8
$7,000–$9,999	34,695	9.7	11.1	7.3	14.5
$10,000–$14,999	35,869	6.9	7.5	4.3	10.1
$15,000 or more	33,407	5.3	6.3	3.7	8.7

[1] Includes all other races not shown separately.
[2] Excludes unknown family income.

SOURCE: Division of Health Examination Statistics, National Center for Health Statistics: Data from the Health and Nutrition Examination Survey.

Table 42. Persons 17 years of age and over who assessed themselves as overweight, according to sex, race, age, and family income: United States, 1974

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Age and family income	Sex					
	Male			Female		
	All races[1]	White	Black	All races[1]	White	Black
	Percent of persons					
All ages 17 years and over[2]	30.5	31.9	19.6	48 9	49.6	44.2
Less than $5,000	20.4	22 3	12.5	44.1	45.1	40.7
$5,000–$9,999	27.3	28.6	19.7	50.1	50.9	46.3
$10,000–$14,999	32.2	33.4	22.3	51.6	52.2	46.2
$15,000 or more	37.3	37.7	32.2	51.2	51.4	49.6
17–44 years[2]	28.1	29.4	18.6	48.4	49.1	45.0
Less than $5,000	17.6	18.4	14.2	46.4	47.0	45.3
$5,000–$9,999	25.4	26.7	18.8	49.1	50.5	42.5
$10,000–$14,999	30.1	31.4	19.5	50.8	51.3	46.2
$15,000 or more	32.9	33.4	28.7	48.4	48.6	49.9
45–64 years[2]	37.9	39.6	22.7	56.1	56.7	52.0
Less than $5,000	25.6	31.4	*8.5	51.0	51.5	48.8
$5,000–$9,999	34.7	36.7	23.7	57.7	57.7	59.9
$10,000–$14,999	37.2	38.3	27.5	56.7	57.7	48.6
$15,000 or more	45.3	45.4	40.8	60.0	60.3	49.8
65 years and over[2]	23.8	24.5	17.1	36.9	38.1	23.7
Less than $5,000	20.8	21.8	*14.0	37.0	39.6	17.4
$5,000–$9,999	23.3	24.0	*14.0	39.0	39.0	*39.0
$10,000–$14,999	29.3	29.2	*49.4	37.9	38.3	*23.8
$15,000 or more	32.2	32.1	*29.5	33.1	33.0	*32.9

[1] Includes all other races not shown separately.

[2] Includes unknown family income.

SOURCE: Division of Heath Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 43. Obesity among persons 20–74 years of age, according to sex, race, age, and poverty level: United States, 1971–74

(Data are based on physical examinations of a sample of the civilian noninstitutionalized population)

Age and poverty level	Sex					
	Male			Female		
	All races[1]	White	Black	All races[1]	White	Black
	Percent of persons					
All ages 20–74 years	13.0	13.3	11.6	22.7	21.8	31.2
Below poverty level	8.0	8.2	7.6	26.5	23.1	33.3
Above poverty level	13.8	13.9	13.4	22.6	22.1	30.0
20–44 years	14.2	14.2	13.3	19.7	18.4	25.6
Below poverty level	9.7	9.4	11.1	22.8	20.6	27.6
Above poverty level	14.7	14.9	14.6	18.8	18.3	24.0
45–64 years	12.1	12.2	10.2	29.0	27.6	43.0
Below poverty level	4.8	5.3	3.7	35.1	26.4	49.4
Above poverty level	13.2	13.2	12.4	29.2	28.5	40.0
65–74 years	11.0	11.5	5.8	20.5	19.8	27.7
Below poverty level	9.1	10.3	4.6	24.7	25.2	23.2
Above poverty level	10.8	11.1	7.0	20.1	19.2	36.3

[1] Includes all other races not shown separately.

NOTE: Obesity measure is based on triceps skinfold measurements and is defined as falling above the sex-specific 85th percentile measurements for persons 20–29 years of age.

SOURCE: Division of Health Examination Statistics, National Center for Health Statistics: Data from the Health and Nutrition Examination Suvey.

Table 44. Sports participation status of persons 20 years of age and over, according to selected characteristics: United States, 1975

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Selected characteristic	Population in thousands[1,2]	Sports participation during year prior to interview		
		In one or more sports	As team member	In tournament
Total		Percent of persons		
All persons 20 years and over[3]	135,655	41.6	11.2	6.7
Age				
20–44 years	71,084	58.1	16.5	9.5
45–64 years	43,145	30.3	7.3	4.9
65 years and over	21,426	9.9	1 5	0.7
Sex and age				
Male 20 years and over	63,665	47.4	14.4	10.2
20–44 years	34,268	62 4	20 7	14.2
45–64 years	20,567	35.7	8 8	7.3
65 years and over	8,830	16.6	2.7	*1.3
Female 20 years and over	71,990	36.5	8.4	3.5
20–44 years	36,816	54 0	12.5	5.1
45–64 years	22,579	25.4	5.9	2.8
65 years and over	12,595	5.2	*0.6	*0.2
Family income				
Less than $5,000	21,180	23.1	4.7	2.8
$5,000–$9,999	29,271	34.8	8.3	4.7
$10,000–$14,999	29,538	47.7	13 7	7.6
$15,000 or more	44,358	55.0	16.1	10.2
Color and age				
White 20 years and over	120,141	43.2	11.7	7.0
20–44 years	61,990	60.3	17.4	10.0
45–64 years	38,696	32.2	7 7	5.3
65 years and over	19,455	10.7	1.6	0.7
All other 20 years and over	15,515	29.2	7.1	4.0
20–44 years	9,094	42.7	10.3	6.2
45–64 years	4,450	14.0	3.6	*1.1
65 years and over	1,971	*1.7	–	–
Self-perceived physical activeness				
Less active	21,952	32.5	5.1	2.4
As active as others of same age	61,946	45.3	11.3	5.6
More active	36,666	54.8	17.8	12.6

[1] Includes unknown sports status.
[2] Population estimate based on July through December 1975.
[3] Includes unknown family income and unknown self-perception of physical activeness.

NOTE. Base of percentage is the population. For example, 41.6 percent of all persons 20 years of age and over participated in one or more sports.

SOURCE: National Center for Health Statistics. Exercise and participation in sports among persons 20 years of age and over, United States, 1975, by J. W. Choi. *Advance Data from Vital and Health Statistics,* No. 19. DHEW Pub. No. (PHS)78–1250. Public Health Service, Hyattsville, Md., Dec. 14, 1977.

Table 45. Self-assessed exercise and activity status of persons 12–74 years of age, according to sex, race, age, and family income: United States, 1971–75

(Data are based on interviews of a sample of the civilian noninstitutionalized population)

Sex, race, age, and family income	Population 12–74 years in thousands	Self-assessed exercise and activity status			
		All statuses	Very active or much exercise	Somewhat active or some exercise	Inactive or little or no exercise
		Percent distribution			
Total[1,2]	147,154	100.0	56.9	37.0	6.1
Sex					
Male	70,600	100.0	63.6	31.1	5.3
Female	76,554	100.0	50.9	42.3	6.8
Race					
White	129,973	100.0	56.7	37.4	5.9
Black	15,714	100.0	58.8	33.1	8.1
Age					
12–17 years	23,545	100.0	78.8	19.7	1.5
18–24 years	23,809	100.0	57.9	37.9	4.2
25–34 years	26,137	100.0	59.3	35.6	5.1
35–44 years	21,438	100.0	54.1	39.0	6.9
45–54 years	22,366	100.0	51.1	40.8	8.1
55–64 years	17,867	100.0	50.4	41.2	8.4
65–74 years	11,992	100.0	33.8	53.7	12.5
Family income					
Less than $4,000	22,316	100.0	49.0	39.6	11.4
$4,000–$6,999	20,867	100.0	55.5	37.3	7.2
$7,000–$9,999	34,695	100.0	58.8	36.3	4.9
$10,000–$14,999	35,869	100.0	59.5	36.2	4.3
$15,000 or more	33,407	100.0	59.0	36.0	5.0

[1] Includes all other races not shown separately.
[2] Excludes unknown family income.

SOURCE: Division of Health Examination Statistics, National Center for Health Statistics: Data from the Health and Nutrition Examination Survey.

Table 46. Drug, alcohol, and cigarette use by high school seniors during 30-day period prior to interview, according to substance and frequency of use: United States, 1975–77

(Data are based on questionnaires administered in a sample of high schools)

Substance and frequency of use	Class of—		
	1975	1976	1977
Marijuana	Percent using substance		
None	72.9	67.8	64.6
1–2 times	7.7	8 3	9.6
3–5 times	4.8	5.4	5.8
6–19 times	8.6	10.4	10.9
20 or more times	6.0	8.2	9.1
Daily	6.0	8.2	9.1
Alcohol			
None	31.8	31.7	28.8
1–2 times	22.1	22.0	22.2
3–5 times	17.5	18.4	18.3
6–19 times	22.9	22.2	24.6
20 or more times	5.7	5.6	6.1
Daily	5.7	5.6	6.1
Cigarettes			
None	63.3	61.2	61.6
Less than 1 per day	9.8	10.0	9.6
1–5 per day	9.0	9.5	9.4
About ½ pack per day	8.3	9.3	9.1
About 1 pack per day	7.3	7.9	8.1
About 1½ packs per day or more	2.3	2.0	2.2
Daily	26.9	28.8	28.8

Substance and frequency of use	Class of—		
	1975	1976	1977
Stimulants[1]	Percent using substance		
None	91.5	92.3	91.2
1–2 times	4.1	3.9	4.3
3–5 times	1.7	1.6	1.9
6 or more times	2.7	2.1	2.6
Sedatives[1]			
None	94.6	95.5	94.9
1–2 times	2.6	2.3	2.4
3–5 times	1.4	1.2	1.5
6 or more times	1.4	1.0	1.2
Tranquilizers[1]			
None	95.9	96.0	95.4
1–2 times	2.4	2.5	2.5
3–5 times	0.9	0.8	1.0
6 or more times	0.8	0.8	1.0
Other substances			
Inhalants	---	0.9	1.3
Hallucinogens	4.7	3.4	4.1
Cocaine	1.9	2.0	2.9
Heroin	0.4	0.2	0.3
Other opiates[1]	2.1	2.0	2.8

[1] Includes drug use which was not ordered by a physician.

SOURCE: Johnston, L.D., Bachman, J.G., and O'Mally, P.M.: *Drug Use Among American High School Students, 1975–1977.* The Monitoring the Future Project, Institute for Social Research, University of Michigan. Research Grant No. 3R01 DA 01411–0181. National Institute on Drug Abuse. Rockville, Md., 1977.

Table 47. Cigarette smoking status of persons 20 years of age and over, according to race and sex: United States, selected years 1965–76

(Data based on household interviews of a sample of the civilian noninstitutionalized population)

Race, sex, and year	Cigarette smoking status				Race, sex, and year	Cigarette smoking status			
	Total[1]	Never smoked	Former smoker	Current smoker[2]		Total[1]	Never smoked	Former smoker	Current smoker[2]
White male	Number of persons in thousands				White female	Number of persons in thousands			
1965	47,990	12,947	10,273	24,685	1965	53,539	30,599	4,534	18,228
1970	51,317	14,157	14,635	22,310	1970	58,289	32,257	7,291	18,495
1974	55,475	13,967	15,348	21,428	1974	62,145	33,018	8,258	19,213
1976	57,477	14,596	15,207	20,841	1976	64,140	33,068	8,816	19,528
Black male					Black female				
1965	4,680	1,262	567	2,842	1965	5,681	3,370	337	1,944
1970	5,188	1,548	818	2,778	1970	6,454	3,800	489	2,118
1974	5,871	1,519	827	2,899	1974	7,432	3,957	570	2,635
1976	6,233	1,601	1,021	2,677	1976	7,798	4,036	726	2,570

[1] Includes unknown smoking status.

[2] A current smoker is a person who has smoked at least 100 cigarettes and who now smokes cigarettes on a regular basis.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 48. Cigarette smoking status of persons 20 years of age and over, according to sex, race, and age: United States, 1965 and 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Sex, race, and age	Cigarette smoking status, 1965				Cigarette smoking status, 1976			
	Total[1]	Never smoked	Former smoker	Current smoker[2]	Total[1]	Never smoked	Former smoker	Current smoker[2]
	Percent distribution							
MALE								
Total[3]								
All ages 20 years and over	100.0	27.1	20 5	52.4	100.0	29.2	28.9	41 9
20–24 years	100 0	31 8	9 0	59.2	100.0	41.9	12.2	45.9
25–34 years	100 0	24.6	14.7	60.7	100.0	33.1	18.3	48.5
35–44 years	100 0	21 2	20.6	58.2	100.0	25.1	27.3	47.6
45–64 years	100 0	24.0	24.1	51.9	100.0	21.6	37.1	41.3
65 years and over	100 0	43 4	28.1	28 5	100.0	32.7	44.4	23.0
White								
All ages 20 years and over	100.0	27.0	21 4	51 5	100.0	28.8	30.0	41.2
20–24 years	100.0	32.2	9.6	58.1	100.0	41.5	13.3	45.3
25–34 years	100.0	24.4	15.5	60.1	100.0	33.4	18.9	47.7
35–44 years	100.0	21.2	21.5	57.3	100.0	24.4	28.9	46.8
45–64 years	100.0	23 6	25.1	51 3	100.0	21.3	38.1	40.6
65 years and over	100 0	43 6	28.7	27.7	100.0	31.6	45.6	22.8
Black								
All ages 20 years and over	100 0	27.0	12.1	60 8	100.0	30.2	19 3	50.5
20–24 years	100.0	28.8	3.8	67.4	100.0	43.1	4.1	52.8
25–34 years	100.0	24.9	6.7	68.4	100.0	28.9	11.8	59.4
35–44 years	100.0	20 4	12.3	67.3	100.0	27.3	13.8	58.8
45–64 years	100.0	26.7	15 3	57.9	100.0	21.7	28.6	49.7
65 years and over	100.0	42.1	21.5	36.4	100.0	40.5	33.0	26.4

FEMALE								
Total[3]								
All ages 20 years and over	100.0	57.7	8.2	34.1	100.0	54.3	13.8	32.0
20–24 years	100.0	50.8	7.3	41.9	100.0	55.4	10.4	34.2
25–34 years	100.0	46.5	9.9	43.7	100.0	49.6	12.9	37.5
35–44 years	100.0	46.7	9.6	43.7	100.0	46.0	15.8	38.2
45–64 years	100.0	59.4	8.6	32.0	100.0	49.3	15.9	34.8
65 years and over	100.0	85.9	4.5	9.6	100.0	75.5	11.7	12.8
White								
All ages 20 years and over	100.0	57.3	8.5	34.2	100.0	53.8	14.4	31.8
20–24 years	100.0	50.1	8.0	41.9	100.0	54.2	11.4	34.4
25–34 years	100.0	46.3	10.3	43.4	100.0	49.2	13.7	37.1
35–44 years	100.0	46.2	9.9	43.9	100.0	44.9	17.0	38.1
45–64 years	100.0	58.5	8.8	32.7	100.0	49.0	16.4	34.7
65 years and over	100.0	85.8	4.5	9.8	100.0	75.4	11.5	13.2
Black								
All ages 20 years and over	100.0	59.6	6.0	34.4	100.0	55.0	9.9	35.1
20–24 years	100.0	53.3	2.5	44.2	100.0	60.1	5.0	34.9
25–34 years	100.0	45.5	6.7	47.8	100.0	48.6	8.9	42.5
35–44 years	100.0	50.1	7.0	42.8	100.0	49.1	9.6	41.3
45–64 years	100.0	67.6	6.6	25.7	100.0	50.0	11.9	38.1
65 years and over	100.0	88.4	4.5	7.1	100.0	77.4	13.3	9.2

[1] Excludes unknown smoking status.
[2] A current smoker is a person who has smoked at least 100 cigarettes and who now smokes cigarettes on a regular basis.
[3] Includes all other races not shown separately.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 49. Cigarettes smoked per day by persons 20 years of age and over, according to amount smoked, sex, race, and age: United States, 1965 and 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Sex, race, and age	Cigarettes smoked per day, 1965					Cigarettes smoked per day, 1976				
	Total[1]	Less than 15	15–24	25–44	45 or more	Total[1]	Less than 15	15–24	25–44	45 or more
	Percent of persons[2]									
MALE										
Total[1]										
All ages 20 years and over	52.4	14.4	23.5	11.4	1.5	41.9	10.0	18.6	11.2	1.7
20–24 years	59.2	19.9	28.3	8.1	0.7	45.9	14.3	22.7	7.9	*0.5
25–34 years	60 7	15.3	29.7	12.9	1.6	48.5	12.2	21.9	12.2	1.5
35–44 years	58.2	13.4	25.4	15.7	2.1	47.6	9.2	19.4	15.8	2.6
45–64 years	51.9	13.4	22 7	12.3	1 7	41.3	7.6	18.1	13.0	2.4
65 years and over	28.5	12.9	10 7	3.4	*0.4	23 0	8.9	9.7	3.6	*0.6
White										
All ages 20 years and over	51.5	13.0	23.5	12.2	1.6	41 2	8.7	18.3	11.9	1.9
20–24 years	58.1	18.1	28.5	8.7	0.8	45.3	12.3	23.6	8.3	*0.5
25–34 years	60.1	13.5	30.2	13.8	1 7	47.7	10 4	21.9	13.1	1.7
35–44 years	57.3	12.0	25.1	16.7	2.3	46.8	7.9	18.7	16.7	2.9
45–64 years	51.3	12.2	22.6	13.1	1.8	40.6	6.5	17.5	13.8	2.5
65 years and over	27.7	11.9	10.8	3.6	*0.4	22.8	8.5	9.5	3.9	*0.7
Black										
All ages 20 years and over	60.8	27.5	24.3	4.7	*0.6	50.5	21.6	22 1	5.4	*0.3
20–24 years	67.4	32.9	26.1	*3.3	*–	52.8	30.1	18.1	*4.7	*–
25–34 years	68.4	30.7	26.8	5.4	*1.3	59.4	25.9	24.5	5.5	*0.4
35–44 years	67.3	26.9	28.8	6.8	*0.8	58.8	22.4	26.1	9.7	*–
45–64 years	57.9	25.5	23.7	4.7	*0.4	49.7	17.6	24.8	5.8	*0.7
65 years and over	36.4	22.4	11.0	*1.1	*–	26.4	14.0	12.4	*–	*–

FEMALE										
Total[3]										
All ages 20 years and over	34.1	14.7	14.2	4.5	0.3	32.0	11.5	13.8	5.8	0.4
20–24 years	41.9	19.8	17.2	3.7	*0.2	34.2	14.5	14.3	4.4	*0.5
25–34 years	43.7	17.9	18.6	6.3	0.4	37.5	12.6	16.6	7.0	0.6
35–44 years	43.7	16.9	18.9	6.9	0.5	38.2	12.7	16.7	7.7	*0.5
45–64 years	32.0	14.0	13.2	4.0	0.3	34.8	11.8	15.2	6.9	0.5
65 years and over	9.6	5.9	2.9	0.6	*0.0	12.8	6.2	4.9	1.4	*0.0
White										
All ages 20 years and over	34.2	13.8	14.8	4.8	0.3	31.8	10.4	14.2	6.3	0.5
20–24 years	41.9	18.6	18.2	4.0	*0.2	34.4	13.3	15.0	5.0	*0.5
25–34 years	43.4	16.3	19.5	6.7	0.4	37.1	11.2	17.1	7.6	0.7
35–44 years	43.9	15.7	19.7	7.4	0.6	38.1	11.1	17.0	8.8	*0.6
45–64 years	32.7	13.6	13.9	4.3	0.3	34.7	10.9	15.4	7.3	0.6
65 years and over	9.8	5.9	3.0	0.6	*0.0	13.2	5.9	5.4	1.6	*0.1
Black										
All ages 20 years and over	34.4	22.8	8.9	1.9	*0.1	35.1	20.8	11.7	2.1	*–
20–24 years	44.2	31.2	9.4	*1.4	*0.6	34.9	22.9	10.9	*1.1	*–
25–34 years	47.8	30.8	11.7	4.0	*0.1	42.5	24.1	13.8	*3.2	*–
35–44 years	42.8	26.8	12.8	*2.5	*0.1	41.3	24.6	15.6	0.6	*–
45–64 years	25.7	17.6	6.8	*0.9	*–	38.1	20.3	14.0	3.9	*–
65 years and over	7.1	5.8	1.2	*–	*–	9.2	9.2	*–	*–	*–

[1] Includes unknown number of cigarettes smoked.
[2] Excludes population with unknown smoking status from base of percentage.
[3] Includes all other races not shown separately.

NOTE: A current smoker is a person who has smoked at least 100 cigarettes and who now smokes cigarettes on a regular basis.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 50. Persons 12–74 years of age who had at least 1 drink of alcohol during the year prior to interview, according to frequency of drinking, sex, race, age, and family income: United States, 1971–75

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Sex, race, age, and family income	Population 12–74 years in thousands	Frequency of drinking					
		Persons who had at least 1 drink	Every day	Just about every day	About 2 or 3 times per week	About 1 to 4 times per month	Less than once per month
		Percent of persons drinking					
Total[1,2]	147,154	72.0	7.5	3.8	11.6	25.3	23.8
Sex							
Male	70,600	77.6	11.5	5.7	15.5	26.8	18.1
Female	76,554	66.9	3.9	2.0	7.9	24.0	29.0
Race							
White	129,973	73.0	8.1	3.9	11.5	25.4	24 1
Black	15,714	63 6	3.2	2.9	12.2	23.8	21 5
Age							
12–17 years	23,545	38.9	0.1	0.2	1.2	8.7	28.6
18–24 years	23,809	84.9	2.8	3 0	12.8	40.2	26.2
25–34 years	26,137	85.8	7.3	4.7	15.8	35.9	22.2
35–44 years	21,438	81.2	11.6	5.4	14.8	29.5	19.9
45–54 years	22,366	78.4	11.5	6.2	15.7	22.5	22.6
55–64 years	17,867	70.1	12.5	4.0	10.4	18.9	24.4
65–74 years	11,992	56.2	9.6	2.5	8.5	13.9	21.8
Family income							
Less than $4,000	22,316	61 6	4.1	2.2	9.8	21.9	23.5
$4,000–$6,999	20,867	64.8	6.3	2.1	9.0	24.2	23.2
$7,000–$9,999	34,695	72.0	6.6	3.6	10.6	25.6	25.7
$10,000–$14,999	35,869	75.6	8.0	3.9	12.5	26.2	25.0
$15,000 or more	33,407	79.7	10.3	5 9	14.4	27.0	22.1

[1] Includes all other races not shown separately.
[2] Excludes unknown family income.

NOTE: Numbers and percents may not add to totals because of rounding.

SOURCE: Division of Health Examination Statistics, National Center for Health Statistics: Data from the Health and Nutrition Examination Survey.

Table 51. Persons 20 years of age and over using sleeping aids, aspirins, coffee, or cigarettes, according to frequency of use, sex, and age: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Sex and age	Population in thousands	Substance				
		Sleeping aids,[1] once a week or more	Aspirins, once a week or more	Coffee, 5 or more cups per day	Cigarettes	
					Current smokers[2]	15 or more per day
		Percent of persons with known use				
Both sexes						
All ages 20 years and over	137,478	5.7	23.0	17.9	36.4	25.1
20–24 years	18,662	1.6	13.7	6.6	39.6	24.6
25–34 years	31,137	2.1	19.5	16.5	42.6	29.4
35–44 years	22,631	4.4	23.6	27.5	42.4	30.7
45–54 years	23,402	7.4	24.5	27.0	40.7	30.5
55–64 years	19,849	8.6	26.7	18.6	34.5	24.1
65–74 years	13,831	10.2	29.1	11.6	21.2	12.2
75 years and over	7,967	12.4	31.3	5.4	9.5	4.7
Male						
All ages 20 years and over	64,556	4.2	18.1	20.3	41.9	31.4
20–24 years	8,997	1.5	10.0	7.6	45.9	31.0
25–34 years	15,097	1.5	14.3	18.3	48.5	35.6
35–44 years	10,869	2.9	17.9	28.9	47.6	37.9
45–54 years	11,273	4.6	19.3	30.7	44.0	35.9
55–64 years	9,359	7.0	22.6	21.9	38.1	30.4
65–74 years	5,998	7.8	26.3	14.7	27.4	17.3
75 years and over	2,964	11.0	25.0	6.9	14.0	7.0
Female						
All ages 20 years and over	72,922	7.0	26.9	15.9	32.0	20.0
20–24 years	9,666	1.7	16.8	5.9	34.2	19.2
25–34 years	16,040	2.7	23.8	15.0	37.5	24.2
35–44 years	11,762	5.6	28.1	26.3	38.2	24.9
45–54 years	12,129	9.8	28.9	23.8	37.8	25.9
55–64 years	10,490	10.0	30.1	15.8	31.4	18.8
65–74 years	7,833	12.0	31.2	9.3	16.6	8.4
75 years and over	5,003	13.2	34.9	4.5	6.8	3.3

[1] Including any medicines for insomnia.

[2] A current smoker is a person who has smoked at least 100 cigarettes and who now smokes cigarettes on a regular basis.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 52. Population served with fluoridated water, according to type of fluoridation, geographic division, and State: United States, 1967 and 1975

(Data are based on reporting by State health officials)

Geographic division and State	1967				1975			
	Population in thousands	Type of fluoridation			Population in thousands	Type of fluoridation		
		Total	Adjusted water	Natural water		Total	Adjusted water	Natural water
		Percent served with fluoridated water				Percent served with fluoridated water		
United States	197,374	41.5	36.4	5.1	213,032	49.4	44.4	5.0
New England	11,562	27.0	26.9	0.1	12,187	41.4	41.3	0.1
Maine	1,004	21.0	21.0	0.1	1,058	39.9	39.9	–
New Hampshire	697	7.5	6.8	0.6	812	13.1	11.3	1.8
Vermont	423	13.6	13.6	–	472	36.7	36.7	–
Massachusetts	5,594	7.0	7.0	–	5,814	21.6	21.6	–
Rhode Island	909	79.8	79.5	0.2	931	69.4	69.4	–
Connecticut	2,935	57.5	57.4	0.1	3,100	79.0	78.9	0.0
Middle Atlantic	36,544	46.8	46.5	0.3	37,269	51.3	50.9	0.4
New York	17,935	66.8	66.7	0.1	18,076	66.7	66.5	0.1
New Jersey	6,928	12.8	11.7	1.1	7,333	21.5	19.9	1.5
Pennsylvania	11,681	36.2	36.2	–	11,860	46.2	46.2	–
East North Central	39,347	54.3	50.5	3.8	40,945	66.1	62.1	4.0
Ohio	10,414	32 7	30.2	2.6	10,735	41.5	39.5	2.0
Indiana	5,053	54.6	49.2	5.3	5,313	61.1	56.8	4.3
Illinois	10,947	66.5	59.7	6.7	11,197	86.1	78.0	8.0
Michigan	8,630	63.2	61.6	1.6	9,111	75.7	74.0	1.8
Wisconsin	4,303	57.8	55.6	2.2	4,589	61.6	58.5	3.1
West North Central	15,942	43.7	37.6	6.1	16,690	55.0	50.5	4.5
Minnesota	3,659	50.2	49.3	0.9	3,921	71.0	71.0	0.1
Iowa	2,793	57.3	40.4	16.9	2,861	62.0	50.9	11.1
Missouri	4,539	43.4	40.9	2.4	4,767	42.1	38.7	3.3
North Dakota	626	44.9	39.6	5.3	637	50.7	45.8	4.9
South Dakota	671	25.2	12.6	12.6	681	61.7	53.0	8.7
Nebraska	1,457	8.7	4.2	4.5	1,544	45.5	43.0	2.5
Kansas	2,197	44.6	36.6	8.0	2,280	51.2	44.7	6.5

South Atlantic	29,484	43.1	40.9	2.2	33,658	46.7	44.0	2.8
Delaware	525	40.2	40.2	–	579	39.2	38.7	0.3
Maryland	3,757	73.0	72.1	0.8	4,122	67.4	66.5	0.8
District of Columbia	791	100.0	100.0	–	712	100.0	100.0	–
Virginia	4,508	58.7	57.2	1.4	4,981	49.8	49.1	0.7
West Virginia	1,769	49.6	49.6	0.1	1,799	50.5	50.4	0.0
North Carolina	4,952	37.4	36.5	0.9	5,441	44.3	43.1	1.2
South Carolina	2,533	27.7	25.2	2.5	2,816	51.1	48.2	2.9
Georgia	4,408	31.9	30.1	1.7	4,931	40.5	40.1	0.4
Florida	6,242	23.4	17.4	6.0	8,277	33.5	25.2	8.3
East South Central	12,717	33.2	32.3	0.9	13,515	45.4	44.6	0.8
Kentucky	3,172	44.9	44.5	0.4	3,387	50.2	49.8	0.4
Tennessee	3,859	42.0	42.0	–	4,173	65.7	65.7	–
Alabama	3,458	24.7	24.0	0.7	3,615	31.0	30.0	0.9
Mississippi	2,228	14.2	10.9	3.2	2,341	24.5	22.1	2.4
West South Central	18,570	46.4	22.4	24.0	20,867	49.3	29.9	19.4
Arkansas	1,901	30.5	29.9	0.7	2,110	37.0	36.1	0.9
Louisiana	3,581	7.2	4.6	2.6	3,806	22.9	18.5	4.4
Oklahoma	2,489	55.2	41.1	14.1	2,715	62.2	51.5	10.8
Texas	10,599	60.4	22.7	37.7	12,237	56.7	27.6	29.1
Mountain	7,878	34.0	14.4	19.6	9,625	41.5	22.1	19.4
Montana	701	25.2	5.4	19.8	746	26.1	8.2	18.0
Idaho	688	30.8	12.3	18.5	813	32.1	5.9	26.1
Wyoming	322	26.8	8.7	18.1	376	20.0	14.9	5.3
Colorado	2,053	69.2	41.6	27.6	2,541	81.4	54.2	27.2
New Mexico	1,000	58.3	8.7	49.7	1,144	61.4	35.7	25.7
Arizona	1,646	7.7	0.9	6.8	2,212	29.3	6.7	22.6
Utah	1,019	4.5	2.2	2.3	1,203	2.3	2.1	0.2
Nevada	449	5.3	1.6	3.7	590	2.9	0.8	2.0
Pacific	25,329	13.1	10.5	2.6	28,274	22.5	18.2	4.3
Washington	3,174	13.5	8.4	5.1	3,559	38.4	37.2	1.2
Oregon	1,979	14.7	13.6	1.1	2,284	10.5	9.3	1.2
California	19,176	12.5	10.0	2.5	21,198	21.5	16.1	5.4
Alaska	278	41.8	41.8	–	365	42.8	42.5	0.3
Hawaii	723	13.1	13.1	–	868	6.3	6.3	–

NOTES: Water systems are considered to have dentally significant natural fluoridation if they have 0.7 parts per million or more naturally occurring fluoride. Adjusted water systems are fluoridated at the optimal level according to the average maximum daily air temperature in the community.

SOURCES: Center for Disease Control: *Fluoridation Census, 1975*. DHEW, Public Health Service, Atlanta, Ga., Apr. 1977; Division of Dental Health, Bureau of Health Manpower: *Fluoridation Census, 1967,* DHEW Pub. No. (NIH) 68–428. National Institutes of Health. Bethesda, Md., 1968; U.S. Bureau of Census: Population estimates and projections, *Current Population Reports.* Series P–25, Nos. 460 and 646. Washington. U.S. Government Printing Office, June 1971 and Feb. 1977. (Population data are from the Census Bureau reports.)

Table 53. Air pollution, according to source and type of pollutant: United States, 1970–76

(Data are based on reporting by air quality monitoring stations)

Type of pollutant and year	Source					
	All sources	Transportation	Stationary source fuel combustion	Industrial processes	Solid waste	Miscellaneous
	Emissions in 10^6 tons/year					
Particulate matter						
1970	22.6	1.1	7.1	12.4	1.1	0.9
1971	21.4	1.1	6.6	11.8	0.8	1.1
1972	20.3	1.2	6.4	11.1	0.7	0.9
1973	19.9	1.2	6.5	10.9	0.6	0.7
1974	17.5	1.2	5.6	9.4	0.5	0.8
1975	14.4	1.2	5.3	6.9	0.4	0.6
1976	13.4	1.2	4.6	6.3	0.4	0.9
Sulfur oxides						
1970	29.1	0 7	22 3	5.9	0.1	0.1
1971	27.9	0.7	21.5	5.5	0.1	0.1
1972	28.8	0.7	21.8	6.1	0.1	0.1
1973	29.7	0.8	22.9	5.8	0.1	0.1
1974	28.2	0.8	21.9	5.3	0.1	0.1
1975	25.7	0.8	20.6	4.2	–	0.1
1976	26.9	0.8	21.9	4.1	–	0.1
Nitrogen oxides						
1970	20.4	8.4	10.9	0.6	0.3	0.2
1971	21.3	8.9	11.2	0.6	0.3	0.3
1972	22.2	9.4	11.7	0.7	0.2	0.2
1973	22.9	9.7	12 1	0.7	0.2	0.2
1974	22.6	9.6	11.9	0.7	0.2	0.2
1975	22.2	9.9	11.2	0.7	0.2	0.2
1976	23.0	10.1	11.8	0.7	0.1	0.3
Hydrocarbons						
1970	29.7	12.6	1.5	8.5	1.7	5.4
1971	29.3	12.3	1.5	8.5	1.4	5.6
1972	29.7	12.6	1.5	8.9	1.1	5.6
1973	29.8	12.2	1.6	9.4	1.0	5.6
1974	28.6	11.3	1.5	9.2	0.9	5.7
1975	26.2	10.9	1.4	8.5	0.8	4.6
1976	27.9	10.8	1.4	9.4	0.8	5.5
Carbon monoxide						
1970	99.8	79.2	1.2	8.0	6.1	5.3
1971	100.2	79.6	1.2	7.9	4.7	6.8
1972	102.0	84.0	1.3	7.9	4.0	4.8
1973	98.3	81.3	1.3	8.7	3.6	3.9
1974	91.5	74.0	1.3	8.2	3.2	4.8
1975	85.9	71.5	1.2	7.1	2.9	3.2
1976	87.2	69.7	1.2	7.8	1.1	5.7

NOTE: Because of modifications in methodology and use of more refined emission factors, data from this table should not be compared with data in *Health, United States, 1976–1977.*

SOURCE: Air Quality Planning and Standards Division: *National Air Quality Emission Trends Report, 1976.* EPA–450/11–77–002. U.S. Environmental Protection Agency. Research Triangle Park, N.C., Dec. 1977.

Table 54. Episodes of injury, according to place of injury, sex, and age: United States, 1975

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Sex and age	Episodes of injury in thousands	Percent of all injuries	Place of injury					
			All places[1]	Home			Street and highway	All other places[2]
				Total	Inside	Adjacent		
			Percent distribution					
Both sexes, all ages	74,164	100.0	100.0	50.4	28.9	21.5	9.5	40.1
Under 18 years	27,717	37.4	100.0	54.1	25.7	28.4	7.8	38.1
18–44 years	30,948	41.7	100.0	40.8	26.3	14.5	10.8	48.4
45–64 years	10,796	14.6	100.0	57.9	36.4	21.5	9.8	32.3
65 years and over	4,703	6.3	100.0	75.3	49.0	26.3	*10.2	*14.6
Male, all ages	39,653	100.0	100.0	40.0	16.8	23.1	7.7	52.3
Under 18 years	17,012	42.9	100.0	48.6	18.7	29.9	7.3	44.1
18–44 years	16,747	42.2	100.0	27.8	13.2	14.7	8.7	63.5
45–64 years	4,600	11.6	100.0	42.3	18.3	24.0	*6.1	51.7
65 years and over	1,294	3.3	100.0	78.0	*35.0	*43.0	*7.3	*14.7
Female, all ages	34,511	100.0	100.0	62.9	43.5	19.5	11.6	25.5
Under 18 years	10,706	31.0	100.0	63.1	37.2	26.0	8.7	28.2
18–44 years	14,201	41.1	100.0	57.0	42.7	14.3	13.4	29.6
45–64 years	6,196	18.0	100.0	69.6	50.0	19.6	12.6	17.8
65 years and over	3,409	9.9	100.0	74.2	54.3	19.9	*11.3	*14.5

[1] Excludes unknown place of injury.

[2] Includes industry, school, recreation (except at school), and other places.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

E. Measures of Health

No one measure accurately reflects the health of the American people and, in fact, a determination of how healthy Americans really are depends to a large extent on how health is defined. With more people living longer than ever before, measures of health other than death are necessary to characterize the disease and disability patterns of an aging population.

Estimates of disease incidence may rise artificially as diagnostic procedures and reporting practices improve. Also, with increased accessibility to medical care, the measures of health status currently used may indicate an artificial "worsening" of health rather than an improvement. For example, as more people receive medical care it is likely that more people will be diagnosed, thereby increasing the number of conditions reported in health surveys. As people are told to cut down their activities because of diagnosed conditions, measures of disability will likely increase.

In the National Health Interview Survey, a large sample of the civilian noninstitutionalized population is asked to assess their own health status in comparison to others their same age. The survey also inquires into the number of acute or chronic conditions and the amount of activity limitation or disability incurred. In the National Health and Nutrition Examination Survey, actual examinations are made by physicians and dentists to assess the health of a sample of the civilian noninstitutionalized population. Local or State health agencies are responsible for reporting the incidence of notifiable diseases to the Center for Disease Control (CDC). From these and other sources, the health of people living in the United States is measured.

In 1976, an estimated 48 percent of the civilian noninstitutionalized population assessed themselves in excellent health. With increasing age and decreasing family income, the proportion of people feeling in excellent health declined. The perception of excellent health was characteristic of 70 percent of the population under 17 years of age in families with incomes of $15,000 per year or more, whereas feeling in excellent health was characteristic of less than a quarter of the population 65 years of age and over who had family incomes of less than $5,000.

Limitations in functional activities can become obstacles to a normal life. In 1976, 14 percent of the civilian noninstitutionalized population were limited in their usual activities because of chronic diseases or physical impairments. Nearly a third of the population 45 years of age and over was limited in activity compared with less than a tenth of the population under 45 years of age. Arthritis and rheumatism and heart conditions were the leading causes of limitation for those over 44 years of age, but impairments of the back and spine most often caused a limitation of activity for adults 17–44 years of age. Asthma was the primary limiting condition for children under 17 years of age.

Some chronic conditions were so severe that almost 4 percent of the civilian noninstitutionalized population were unable to carry on their major activity. For example, visual impairments limited more than 9 percent of the population 65 years of age and over to the extent that they were unable to carry on their major activity. Based on data from the Health and Nutrition Examination Survey from the early 1970's, nearly 90 percent of the population 65–74 years of age were found to have a significant eye abnormality, and about one-fifth of these people needed treatment for their problem. However, the poorer the population the less likely they were to be receiving needed care. More than half of the elderly with family incomes of less than $5,000 were not getting care compared with slightly more than a fifth of those with family incomes of $10,000 or more.

Data from the Health Interview Survey must be interpreted with caution. People can only report on the conditions they are aware of or think they have. Furthermore, since the data are limited to the noninstitutionalized population, the estimates of people limited in

NOTE: Unless otherwise noted, data are from the ongoing data-collection systems of the National Center for Health Statistics. In many instances the data have been published in the *Vital and Health Statistics* series.

activity are lower than they would be if the institutionalized population were included.

People may be institutionalized when they become severely disabled or dependent on others for their daily activities. According to data from the Survey of Institutionalized Persons conducted by the Bureau of the Census, approximately 1.6 million people were in facilities other than long-stay hospitals or correctional facilities in 1976. Of these people, two-thirds were dependent upon others for at least some of their daily activities. Just over a third of those under 18 years of age needed some personal assistance compared with three-fourths of those 65 years of age and over. More people needed assistance for bathing or dressing than for other activities.

As measured by the Health Interview Survey, acute conditions are only temporarily disabling and result in either 1 day or more of restricted activity or the receiving of medical attention. In 1976, children under 17 years of age had an average of 308 acute conditions per 100 people, more than any other age group. It is probably more likely for a child to be kept home from school for 1 or 2 days than it would be for an adult to stay home from work. Also, parents are more apt to seek medical attention for their children than for themselves.

The incidence of acute conditions is higher for people in families with lower incomes than for people with higher incomes. People 17–44 years of age with family incomes of $15,000 or more had 196 acute conditions per 100 persons, while people in the same age group with family incomes of less than $5,000 had 279 acute conditions per 100 persons.

It is difficult to interpret the incidence of acute conditions for elderly people. Since the elderly are more likely to already have limited their usual activity or to be under medical care for a chronic condition, the onset of another condition may not further restrict an elderly person or cause him or her to seek further medical care.

The number of disability days per person provides some indication of the extent to which people have to cut down on activities as a result of an acute or chronic condition. In 1976, there was an average of 18 days of restricted activity per person including 7 days in bed and 5 days lost from work. There were more bed-disability days per person for the older than for the younger population. The number of work-loss days does not exhibit the same age differential as bed-disability days because as people become more ill they are more likely to drop out of the labor force and hence be excluded from the calculations of days of work lost.

Just as people with lower incomes had more acute conditions, they also had more disability days than the more affluent. People 45–64 years of age in families with less than $5,000 income had 3 times the number of restricted-activity days per person than those in families with incomes of $15,000 or more per year.

From the Health Interview Survey a comparison can be made between the health status of persons who reported working as their usual activity in the year prior to interview with those who reported some other usual activity. Based on selected measures of health (i.e., the percent reporting their health as fair or poor and the number of restricted-activity days and bed-disability days per person per year), people 25–44 and 45–64 years of age who classified themselves as usually working perceived themselves in better health and had fewer days of restricted activity, including days spent in bed, than those who reported some other usual activity. People 17–44 years of age who usually worked had more acute conditions than those who did not work. This is probably because the onset of a disabling condition may cause a worker to seek prompt medical care or to temporarily cut back on activities, while someone who does not work may have already cut back on activity.

The number of disability days for the currently employed population varied by occupation and by industry. In general, men in white-collar positions had the fewest days of restricted activity per person (10.5), and women in all other jobs (e.g., blue collar, service, farm workers) had the most (15.5). Employees in transportation and public utilities industries had more bed-disability and work-loss days than those in other industries,

while employees in the construction industry had the fewest number of disability days.

Oral health is an important part of physical health that is often neglected. The presence of dental disease reflects both the condition of the teeth and gums and the extent of met or unmet needs. Dental treatment begun early in life can prevent future dental disease.

According to dental examinations of the civilian noninstitutionalized population during 1971–74, 64 percent needed some kind of dental care. About one-fifth needed to have their teeth cleaned, while two-fifths needed work on decayed teeth. There were pronounced age and family income differences in the need for dental care. For each age group, people with lower incomes had greater dental care needs than those who were more affluent. For example, 78 percent of children 12–17 years of age in families with incomes less than $5,000 needed dental care compared with 54 percent in families with incomes of $15,000 or more.

Periodontal disease and dental caries are two of the leading causes of tooth loss. Dental caries is a chronic destructive disease of the teeth that if left untreated results in loss of affected teeth. Periodontal disease designates a variety of conditions of the supporting structures of the teeth. In the early 1970's, about 16 percent of young children 1–5 years of age and more than 50 percent of children 6–17 years of age needed dental work on decayed teeth, according to findings of dental examinations. The need for periodontal treatment was greater for people 18 years of age and over than for younger people. Of the 54 percent of the population 65–74 years of age who had their natural teeth, 28 percent were found to need periodontal treatment and 33 percent to need work on decayed teeth.

State and local health departments are responsible for reporting the number of cases of certain diseases to the Center for Disease Control (CDC), although the reporting is voluntary. The completeness of reporting under such a system varies according to public concern and awareness of the importance of the disease. There is known to be serious underreporting of some diseases including the common childhood diseases.

In 1976, more than 93,000 cases of childhood diseases for which immunization is available were reported to CDC. In the 7 years following licensure of the rubella vaccine in 1969, the number of cases of the disease dropped by 78 percent to 12,000. The licensure of the measles vaccine in 1963 was followed by a dramatic drop in incidence of reported cases from nearly 400,000 to 22,000 cases in 1968. By 1976, reported measles incidence had again risen to 41,000 cases. Following introduction of the vaccine in 1968, the incidence of mumps declined by 75 percent from 152,000 reported cases in 1968 to 38,000 cases in 1976. The incidence of polio decreased precipitously after the introduction of the vaccine in 1955. Since 1973, fewer than 20 cases of polio have been reported annually.

One of the few childhood diseases for which there is no vaccination is chickenpox. National reporting of this disease to CDC began in 1972. From 1974 to 1976, the number of reported cases per 100,000 population increased from 72.2 to 96.1. Cyclical variation in the incidence of acute conditions often accounts for yearly increases or decreases. Trends in incidence of the disease are not always readily apparent.

As discussed in the "Mortality" section of this report, cancer is one of the leading causes of death in the United States. The annual cancer incidence rate is a measure of the number of newly diagnosed cases for a given period. Based on data from the Surveillance, Epidemiology, and End Results Reporting (SEER) Program, which covers about 10 percent of the U.S. population, the average annual cancer incidence rate for 1973–76 was 324.4 cases per 100,000 population. The rates varied from a low of 277.8 in Utah to a high of 358.0 in the San Francisco area. The cancer mortality rate for the SEER geographic areas was 167.7 per 100,000 population, ranging from a low of 122.6 in Utah to a high of 200.4 in New Orleans. There was considerable variation by site of cancer in the relationship between incidence and mortality. For cancers of the breast and prostate, for example, the incidence rate was approximately 3 times the mortality rate, while for lung cancer, incidence was

only 25 percent higher than mortality. This differential can be explained in part by differences in survival rates for these various forms of cancer. Among those persons diagnosed with cancer of the lung in 1973, the percent surviving 3 years was only 12 percent compared with 78 percent for those with cancer of the breast and 68 percent for those with cancer of the prostate. Mortality for the SEER areas combined is remarkably similar to the total U.S. mortality for all cancer sites and for each of the selected sites.

Although tuberculosis was once a widespread disease in the United States, it has since become a relatively minor one. The rate has dropped from 80.5 to 15.0 cases per 100,000 population from 1950 to 1976. Tuberculosis is nearly 5 times more common in people other than white, and it is much more likely to occur in cities of at least 500,000 people than in smaller ones.

In 1976, gonorrhea ranked first among reportable communicable diseases in the United States. The number of cases per 100,000 civilian population has been increasing since the late 1950's. However, data for 1976 and 1977 suggest a possible reversal of the long-standing upward trend, particularly for people under 30 years of age. The incidence rates of other venereal diseases including syphilis have been decreasing.

The health of a newborn cannot be measured in the same way as the health of the general population. One of several indicators of infant health is birth weight. Infants weighing 2,500 grams or less at birth are considered to be low-birth-weight and are at a greater risk of future health problems than other infants. In 1976, 7.3 percent of all infants born were low-birth-weight. The proportion of low-birth-weight infants born to black women was nearly twice as high as the proportion born to white women (13.0 percent versus 6.1 percent).

The highest proportion of low-birth-weight infants were born to black teenagers with less than a high school education. A higher proportion of low-birth-weight infants were born to unmarried than to married women, regardless of educational attainment. Unmarried women who completed high school had twice the proportion of low-birth-weight infants when compared to married women who finished high school (11.6 percent versus 5.7 percent). Similarly, unmarried women without any high school education had about 1½ times the proportion of low-birth-weight infants when compared to married women without a high school education (13.6 percent versus 8.7 percent).

Lack of proper prenatal care has also been associated with the risk of having a low-birth-weight infant. Women who received prenatal care in the first or second month of pregnancy had a lower proportion of low-birth-weight infants than women who did not get care until later in their pregnancy. However, when both the educational attainment and age of the mother are taken into account, it appears that women 20–29 and those 30–39 years of age who had graduated from college had a lower proportion of low-birth-weight infants than women with lower educational attainment, regardless of the month in which their prenatal care began.

Table 55. Self-assessment of health, according to age, sex, and family income: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Age, sex, and family income	Self-assessed level of health				
	All levels[1]	Excellent	Good	Fair	Poor
	Percent distribution				
ALL AGES					
Total[2]	100.0	48.2	38.9	9.6	2.8
Sex					
Male	100.0	51.3	37.1	8.5	2.7
Female	100.0	45 3	40.7	10.6	2.9
Family income					
Less than $5,000	100.0	31.9	42.0	18.0	7.6
$5,000–$9,999	100.0	40 4	43.4	12.2	3.7
$10,000–$14,999	100.0	49.7	40.3	8.0	1.6
$15,000 or more	100 0	59 6	33.8	5.3	1.1
UNDER 17 YEARS					
Total[2]	100.0	58.8	36.4	3 9	0.4
Sex					
Male	100.0	59.2	36.2	3.8	0.4
Female	100.0	58.4	36.6	4 0	0.4
Family income					
Less than $5,000	100.0	41.2	49 9	7.5	0.8
$5,000–$9,999	100.0	49.7	44.4	4.9	0.6
$10,000–$14,999	100.0	59.8	35.8	3.8	0.3
$15,000 or more	100.0	69.6	27 4	2.4	0.2
17–44 YEARS					
Total[2]	100 0	52 0	39.3	7.0	1.4
Sex					
Male	100.0	56.6	36.4	5.6	1.1
Female	100.0	47.7	42.1	8.3	1.6

Family income					
Less than $5,000	100.0	39.2	44.7	12.4	3.4
$5,000–$9,999	100.0	44.3	44.3	9.4	1.9
$10,000–$14,999	100.0	51.8	40.3	6.5	1.1
$15,000 or more	100.0	60.8	34.2	4.1	0.6
45–64 YEARS					
Total[2]	100.0	35.5	41.8	16.2	5.9
Sex					
Male	100.0	38.6	39.6	14.9	6.4
Female	100.0	32.8	43.8	17.5	5.5
Family income					
Less than $5,000	100.0	17.1	34.4	30.2	17.6
$5,000–$9,999	100.0	26.5	42.1	21.9	9.2
$10,000–$14,999	100.0	32.3	47.2	15.9	4.0
$15,000 or more	100.0	47.5	40.6	9.6	2.2
65 YEARS AND OVER					
Total[2]	100.0	29.0	39.0	22.3	9.0
Sex					
Male	100.0	29.5	37.4	23.2	9.3
Female	100.0	28.7	40.2	21.6	8.8
Family income					
Less than $5,000	100.0	24.1	36.6	26.4	12.4
$5,000–$9,999	100.0	29.7	40.6	22.0	7.4
$10,000–$14,999	100.0	34.4	41.5	18.0	5.5
$15,000 or more	100.0	37.8	39.1	16.8	6.1

[1] Includes unknown level of health.
[2] Includes unknown family income.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 56. Selected chronic conditions causing limitation of activity, according to degree of limitation, sex, and age: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Activity limitation, sex, and age	Number of persons limited in activity	Chronic condition									
		Arthritis and rheumatism	Heart conditions	Hypertension without heart involvement	Diabetes	Mental and nervous conditions	Asthma	Impairments of back or spine	Impairments of lower extremities and hips	Visual impairments	Hearing impairments
		Percent of persons limited in activity because of specified condition									
All degrees of activity limitation											
Both sexes, all ages	30,175,062	16.8	15.7	6.9	5.1	4.9	4.8	7.5	6.1	5.4	2.5
Under 17 years	2,266,695	*1.0	2.4	*0.3	*1.0	6.7	20.1	3.2	6.9	3.7	5.2
17–44 years	7,512,474	6.8	4.8	3.4	2.3	5.9	5.9	13.9	8.0	4 2	2.7
45–64 years	10,504,689	19.6	19.0	9.0	6.8	5.7	3.4	7.9	5.6	4.0	1.9
65 years and over	9,891,204	24.9	23.4	8.9	6.3	3.0	2.1	3.3	5.0	8.2	2.4
Male, all ages	14,564,509	11.4	16.7	4.8	4.8	4.4	4.9	7 2	6.7	5.7	2.8
Under 17 years	1,279,389	*0.4	*2.5	*0.4	*1.1	8.1	21.2	*1.5	7.4	3.8	5.2
17–44 years	3,777,280	4.9	3.9	2.4	1.8	5.5	5 3	13.3	10.2	5.7	3.2
45–64 years	5,182,145	14.9	22 2	6.8	6.9	4.7	2.7	8.0	6.3	4.8	2.6
65 years and over	4,325,695	16.3	25.3	6 1	6.2	2.0	2.2	2.7	4.0	7.6	2.0
Female, all ages	15,610,553	21.7	14.8	8.9	5.2	5.4	4.8	7.9	5.5	5.0	2.2
Under 17 years	987,306	*1.9	*2.2	*0.2	*0.9	5.0	18.6	5.4	6.2	3.6	5.1
17–44 years	3,735,194	8.8	5.7	4.5	2.7	6.3	6.5	14.5	5.8	2.6	2.1
45–64 years	5,322,544	24.2	15.9	11.1	6.7	6.6	4.0	7.9	4.9	3.2	1.2
65 years and over	5,565,509	31.6	22.0	11.1	6.4	3.8	2.0	3.8	5.7	8.6	2.7
Limited but not in major activity											
Both sexes, all ages	7,495,791	13.0	6.7	5.2	3.2	3 4	7.2	8.0	8.2	6.1	4.6
Under 17 years	1,087,587	*1.3	*3.0	*0.5	*1.4	6.1	19.1	5.4	9.3	4.3	5.6
17–44 years	2,843,947	7.2	3.1	2.9	2.4	3.7	8.2	12.2	10.8	5.6	4.1
45–64 years	2,264,578	18.4	8.8	7.8	4.9	2.6	3.8	6.9	6.5	4.7	4 2
65 years and over	1,299,679	25.7	14.0	9.6	3.4	*1.6	*0.9	3.0	4.9	11.2	5.6

Limited in amount or kind of major activity											
Both sexes, all ages	15,210,160	18.3	16.3	7.8	5.0	4.7	4.6	8.8	5.3	4.2	1.8
Under 17 years	1,058,928	*0.7	*1.9	*0.2	*0.7	7.5	22.6	*0.7	4.2	*1.7	4.9
17–44 years	3,721,693	6.8	5.4	4.0	2.3	5.4	4.7	16.5	6.6	3.2	1.8
45–64 years	5,671,034	20.7	19.9	9.5	6.9	5.3	3.4	9.3	4.8	3.2	1.2
65 years and over	4,758,505	28.4	23.9	10.5	5.9	2.9	1.9	4.1	5.0	6.5	1.7
Unable to carry on major activity											
Both sexes, all ages	7,469,111	17.5	23.4	6.8	7.0	7.0	3.0	4.4	5.6	7.2	1.9
Under 17 years	120,180	*1.7	*1.4	*–	*–	*5.7	*7.1	*4.2	*9.0	*15.1	*3.2
17–44 years	946,834	5.8	7.5	*2.7	*1.9	14.5	*3.7	8.4	5.3	3.7	*1.8
45–64 years	2,569,077	18.2	26.2	8.7	8.1	9.1	2.9	5.8	6.5	5.0	1.4
65 years and over	3,833,020	20.4	26.1	6.8	7.7	3.6	2.7	2.5	5.0	9.2	2.2

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 57. Percent of population with significant eye abnormality and treatment status, according to age and family income: United States, 1971–72

(Data are based on examinations of a sample of the civilian noninstitutionalized population)

Treatment status and family income	All ages	Age				
		1–5 years	6–19 years	20–44 years	45–64 years	65–74 years
With significant eye abnormality	Percent of population					
All incomes[1]	39.2	12.2	23.5	34.5	61.7	88.9
Less than $5,000	49.3	18.2	29.3	32.4	71.2	88.2
$5,000–$9,999	36.6	9.5	22.3	33.7	60.6	88.9
$10,000 or more	36.5	12.3	22.9	34.7	59.3	88.3
Needing treatment for eye abnormality						
All incomes[1]	7.1	3.5	4.7	5.0	10.2	22.1
Less than $5,000	9.0	3.7	4.6	4.2	10.5	22.2
$5,000–$9,999	6.8	3.2	4.9	4.6	10.5	23.2
$10,000 or more	6.3	3.6	4.2	5.5	9.9	17.5
Not receiving treatment:	Percent of persons needing treatment					
All incomes[1]	47.9	71.4	46.8	52.0	47.1	43.0
Less than $5,000	57.8	91.9	43.5	81.0	58.1	54.1
$5,000–$9,999	48.5	62.5	38.8	56.5	52.4	37.1
$10,000 or more	42.9	72.2	50.0	43.6	38.4	21.7

[1] Includes unknown income.

SOURCE: Division of Health Examination Statistics, National Center for Health Statistics: Data from the Health and Nutrition Examination Survey: Data computed by the the Division of Analysis from data compiled by the Division of Health Examination Statistics.

Table 58. Institutionalized population and their need for assistance in personal care, according to age, degree of assistance needed, and type of activity: United States, 1976

(Data are based on reporting by staff in a sample survey of institutions)

Population, degree of assistance needed, and type of activity	Age			
	All ages	Under 18 years	18–64 years	65 years and over
	Number of persons			
Institutionalized population	[1]1,550,100	151,530	334,120	1,027,850
	Percent distribution			
Total	100.0	100.0	100.0	100.0
Need no assistance[2,3]	25.3	56.0	40.9	16.3
Need regular assistance or are totally dependent[2]	67.5	36.3	50.1	77.3
Unknown	7.3	7.7	8.9	6.5
	Percent of persons			
Need regular help[2]	43.8	20.1	33.9	50.8
Getting in and out of bed	13.2	3.2	6.3	16.9
Eating or drinking	8.4	6.5	5.8	9.4
Bathing or dressing	33.7	13.4	26.7	39.2
Walking or getting about	11.5	3.3	5.8	14.6
Using toilet or bedpan	11.8	6.2	7.3	14.1
Totally dependent[2]	40.5	25.7	29.3	46.0
Getting in and out of bed	27.5	17.3	16.5	32.0
Eating or drinking	12.4	13.6	9.1	12.7
Bathing or dressing	35.1	24.6	24.7	39.5
Walking or getting about	29.7	16.3	18.5	34.9
Using toilet or bedpan	26.3	18.6	16.5	30.0

[1] Includes 2 percent for whom age is not stated.
[2] In one or more of the specified activities.
[3] Includes less than 1 percent who need occasional help.

NOTE: These data exclude persons in long-stay hospitals and penal and juvenile detention facilities.

SOURCE: U.S. Bureau of the Census: *Current Population Reports.* Series P–23, No. 69. Washington. U.S. Government Printing Office, June 1978.

Table 59. Incidence of acute conditions, according to condition, age, sex, usual activity, and family income: United States, 1976

(Data are based on interviews of a sample of the civilian noninstitutionalized population)

Age, sex, usual activity, and family income	All acute conditions	Acute condition							
		Respiratory				Injuries	Infective and parasitic diseases	Digestive system conditions	All other
		Total	Upper	Influenza	Other[1]				
	Number of acute conditions per 100 persons per year								
All ages under 65 years[2]	231 9	126.9	64.4	56 1	6.4	33.4	26.6	11.0	34.0
Sex and usual activity									
Male	222.0	120.2	61 2	52.6	6.3	39 7	26.0	10.9	25.2
Working or going to school	207.1	113.3	55 2	52.9	5.1	39.3	22.8	10.9	20.9
All other activities[3]	290.7	152.4	89.6	51.5	11.4	41 2	41.4	11.1	44.6
Female	241.4	133.3	67.5	59.4	6.4	27.4	27.1	11.1	42.5
Working or going to school	241.9	137.6	69.5	61 3	6.8	27.9	25.7	12.0	38.6
All other activities[3]	240.8	127.5	64.9	56 6	6.0	26.7	29.2	9.9	47.5
Family income									
Less than $5,000	266.0	151.4	79.1	65.1	7 1	35.1	27.0	14.5	38.0
$5,000–$9,999	238.2	125.2	63 8	55 0	6.3	35.5	26.8	13.1	37.7
$10,000–$14,999	239.3	132.1	60 9	62 9	8.2	33.2	30.5	9.4	34.1
$15,000 or more	222.5	122.1	64.6	51.8	5.7	33 1	26.4	9.8	31.1
Under 17 years[2]	307 8	169.8	98.2	61.1	10.4	37.0	45.4	15.1	40.5
Sex and usual activity									
Male	304.8	159.1	91 2	57.5	10 4	44.5	47.4	15.4	38.4
Working or going to school	268.8	140.1	73 7	58.8	7.7	43.5	40.6	17.4	27.2
All other activities[1]	381.6	199.8	128.7	54.8	16.2	46.6	61.8	11.1	62.3
Female	310.9	180.9	105 5	64.9	10.5	29.2	43.4	14.7	42.7
Working or going to school	283.2	169.1	91.2	67.9	10.0	26.4	36.0	15.8	35.8
All other activities[1]	370.4	206.1	136 1	58.5	11.6	35.1	59.3	12.4	57.5
Family income									
Less than $5,000	316.1	179.8	112 2	56.3	11.4	30.9	48.1	15.6	41.7
$5,000–$9,999	291.9	156.1	92.4	56.2	7.5	35.3	46.7	17.4	36.5
$10,000–$14,999	311.6	173.3	92.2	66.4	14.7	37.6	46.4	11.9	42.5
$15,000 or more	321.8	175.1	103.1	62.1	9.8	41.1	48.3	15.1	42.2

17–44 years[2]	218.7	119.5	54.9	59.9	4.7	35.6	20.5	10.2	33.0
Sex and usual activity									
Male	201.3	113.0	52.7	56.2	4.2	44.4	18.3	9.2	16.4
Working or going to school	203.9	115.0	53.7	57.1	4.2	44.5	18.5	9.0	16.8
All other activities[3]	166.5	84.8	40.4	42.5	*1.9	41.9	*16.5	*11.9	*11.4
Female	235.1	125.6	57.1	63.4	5.1	27.4	22.5	11.1	48.5
Working or going to school	237.7	128.8	63.7	59.7	5.4	31.2	21.7	11.0	45.0
All other activities[3]	231.5	121.0	47.9	68.3	4.7	21.9	23.9	11.3	53.4
Family income									
Less than $5,000	279.3	156.7	77.6	71.8	7.3	42.6	22.4	17.1	40.3
$5,000–$9,999	231.8	122.3	56.6	60.2	5.5	40.4	17.6	12.4	39.1
$10,000–$14,999	229.3	126.1	52.6	68.5	4.9	34.8	27.6	8.7	32.0
$15,000 or more	195.9	108.0	51.0	53.2	3.7	32.1	18.6	8.2	29.1
45–64 years[2]	150.7	80.9	35.4	41.5	4.0	24.2	12.0	6.9	26.8
Sex and usual activity									
Male	138.4	75.7	33.1	38.3	4.3	23.2	9.3	7.4	22.8
Working or going to school	137.4	75.9	35.8	36.0	4.1	22.2	10.2	6.8	22.4
All other activities[3]	139.6	76.0	21.0	49.5	5.5	25.6	*5.2	*10.3	22.5
Female	161.8	85.6	37.5	44.4	3.7	25.0	14.4	6.4	30.5
Working or going to school	167.8	95.4	39.8	52.0	*3.7	22.5	14.9	6.8	28.1
All other activities[3]	156.9	77.9	35.5	38.7	*3.7	27.0	14.1	6.0	31.7
Family income									
Less than $5,000	172.1	102.4	37.9	63.6	*0.9	25.7	*7.7	*7.9	28.4
$5,000–$9,999	168.1	83.0	34.3	42.6	*6.1	25.7	15.2	7.7	36.6
$10,000–$14,999	142.4	77.4	27.9	44.3	*5.3	22.1	10.9	*6.9	25.2
$15,000 or more	144.7	80.4	40.6	35.9	3.9	24.8	12.7	6.2	20.5

[1] Includes pneumonia, bronchitis, and other respiratory conditions not shown separately.

[2] Includes unknown family income and unknown usual activity.

[3] Includes persons keeping house (females only), retired persons 45–64 years of age (both sexes), persons with other activities not specified (both sexes), and persons under 6 years of age for whom no activity is specified.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 60. Disability days, according to type of disability day, age, sex, and family income: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Age, sex, and family income	Civilian noninstitutionalized population		Type of disability day		
	Total	Currently employed, 17 years and over	Restricted activity	Bed disability	Work loss[1]
	Number in thousands		Days per person per year		
ALL AGES					
Total[2]	210,643	87,119	18.2	7.1	5.3
Sex					
Male	101,626	52,177	16.4	6.1	5.2
Female	109,018	34,942	19.9	8.1	5.6
Family income					
Less than $5,000	28,987	6,891	32.5	12.1	5.8
$5,000–$9,999	42,543	15,603	20 3	8.2	6.1
$10,000–$14,999	44,471	19,748	15.7	5.9	5.5
$15,000 or more	75,797	38,212	12.8	5.1	4.7
UNDER 17 YEARS					
Total[2]	60,891	. . .	11.0	5.1	. . .
Sex					
Male	31,039	. . .	10.7	4.9	. . .
Female	29,852	. . .	11.3	5 3	. . .
Family income					
Less than $5,000	6,547	. . .	12.2	6.5	. . .
$5,000–$9,999	12,202	. . .	11.2	5.1	. . .
$10,000–$14,999	14,125	. . .	11.0	4.6	. . .
$15,000 or more	22,511	. . .	10.5	4 9	. . .
17–44 YEARS					
Total[2]	84,701	57,268	14.2	5.6	5.0
Sex					
Male	40,991	33,725	12.6	4.3	4.7
Female	43,710	23,543	15.7	6.8	5.5

Family income					
Less than $5,000	9,789	4,631	21.6	8.6	5.0
$5,000–$9,999	16,363	10,491	16.1	6.5	5.9
$10,000–$14,999	19,533	13,734	14.4	5.5	5.6
$15,000 or more	33,202	24,860	10.8	4.2	4.2
45–64 YEARS					
Total[2]	43,253	26,964	25.4	8.9	6.1
Sex					
Male	20,633	16,524	23.6	7.9	6.3
Female	22,620	10,439	27.0	9.9	5.9
Family income					
Less than $5,000	4,876	1,603	53.6	18.9	7.6
$5,000–$9,999	7,842	4,234	30.6	11.8	7.2
$10,000–$14,999	8,506	5,625	22.3	7.6	5.6
$15,000 or more	17,443	12,785	17.5	5.8	5.8
65 YEARS AND OVER					
Total[2]	21,799	2,887	40.0	15.1	4.0
Sex					
Male	8,962	1,928	36.8	14.3	3.2
Female	12,837	959	42.2	15.6	5.7
Family income					
Less than $5,000	7,775	657	50.3	16.9	7.5
$5,000–$9,999	6,136	878	36.4	14.6	3.6
$10,000–$14,999	2,308	389	31.5	11.4	*1.9
$15,000 or more	2,641	567	28.0	13.1	*0.8

[1] Work-loss rates are based on the currently employed population 17 years of age and over.
[2] Includes unknown family income.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 61. Self-assessment of health, limitation of activity, restricted-activity days, and bed-disability days, according to usual activity, sex, age, and family income: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Sex, age, and family income	Usual activity											
	Total[1]	Working[2]	All other[3]	Total[1]	Working[2]	All other[3]	Total[1]	Working[2]	All other[1]	Total[1]	Working[2]	All other[3]
	Percent feeling fair or poor[4]			Percent limited in activity			Restricted-activity days per person per year			Bed-disability days per person per year		
Both sexes 25–44 years[5]	9.4	7.1	15.3	10.2	7.8	16.2	15 5	13.3	21 1	5.9	4.9	8.4
Less than $5,000	23.2	13.6	33.2	21.4	13.3	29.8	28.4	19.1	38.3	10.6	5.7	15.8
$5,000–$9,999	13.6	10.1	21.7	13.1	8.7	23.0	18.0	15 3	23.9	6.7	5.7	8 8
$10,000–$14,999	8.6	7.4	11.5	9.8	8.8	12.4	15.9	14 2	20.4	6.0	5.2	8.1
$15,000 or more	5.2	4.6	7.3	7.2	6.3	10.0	11.8	11.1	13.9	4.3	4.1	5.2
Male 25–44 years[5]	7.7	5.9	33 9	10.5	8.2	44.8	13.9	11.9	43.1	4.7	4.0	15.0
Less than $5,000	21 0	12 2	39.3	23.6	13.5	44.8	29.0	20.1	47.8	8.9	4.7	18.0
$5,000–$9,999	12 0	8.8	36.7	13.8	9 3	49.6	17.2	14.4	39.9	5.5	4.9	*10.3
$10,000–$14,999	7.0	6.4	24.0	10 1	9.2	36.4	13.5	12.3	48.5	5.0	4.6	*19.1
$15,000 or more	4.0	3.7	21.9	7 3	6.8	37 1	10.1	9.7	35 4	3.2	3.1	*7.5
Female 25–44 years[5]	11.1	9.0	13.1	10.0	7.2	12.8	17.0	15.6	18.5	7.0	6.3	7.6
Less than $5,000	24.7	15.3	30 9	19.8	13.0	24.2	28 0	17.9	34.8	11.8	7.0	15.0
$5,000–$9,999	15.1	12.0	18.5	12.4	7 9	17.5	18.6	16.8	20.6	7.6	6.8	8.5
$10,000–$14,999	10.1	9.5	10.7	9.6	8.2	10.8	18.4	18.1	18.6	7.0	6.7	7.4
$15,000 or more	6.4	6.1	6.7	7.0	5 5	8.9	13.4	13.7	13.0	5.5	5.8	5.1
Both sexes 45–64 years[5]	22.2	14 2	35.5	24.3	15.1	39 6	25.4	16.2	40.6	8.9	5.4	14.9
Less than $5,000	47.8	26.5	57.6	49.0	26.5	59.5	53.6	27.4	65.8	18.9	10.1	23.0
$5,000–$9,999	31.1	21.2	42.7	31.3	18.3	46.4	30.6	17.6	45 5	11.8	6.1	18.4
$10,000–$14,999	19.8	15.6	28.2	22.5	16.8	33.8	22.3	17.8	31.3	7.6	5.5	11.6
$15,000 or more	11 8	9.2	18.7	15.7	12.3	24.8	17.5	14.3	25.8	5.8	4.6	9.1

Male 45–64 years[5]	21.3	14.2	55.0	25.1	16.3	66.8	23.6	15.4	61.9	7.9	4.7	23.1
Less than $5,000	53.1	29.7	67.6	59.1	30.8	76.6	55.4	32.5	69.6	19.5	12.2	24.1
$5,000–$9,999	35.5	24.1	58.6	37.1	20.9	69.7	32.5	17.4	62.6	12.3	5.2	26.7
$10,000–$14,999	20.5	16.4	47.2	24.7	18.8	63.3	22.7	17.0	59.4	7.0	4.9	20.8
$15,000 or more	10.7	9.0	35.1	15.7	13.4	50.2	16.2	13.8	53.1	5.0	4.1	18.1
Female 45–64 years[5]	23.0	14.1	30.0	23.5	13.0	31.8	27.0	17.5	34.5	9.9	6.5	12.5
Less than $5,000	45.0	24.3	53.2	43.8	23.6	51.8	52.7	23.9	64.1	18.6	8.6	22.5
$5,000–$9,999	28.0	18.0	35.8	27.1	15.5	36.3	29.2	17.9	38.2	11.4	7.1	14.9
$10,000–$14,999	19.2	14.2	23.5	20.2	13.1	26.5	22.0	19.3	24.4	8.1	6.7	9.4
$15,000 or more	13.1	9.5	16.5	15.8	10.0	21.3	19.0	15.6	22.1	6.7	5.5	7.8

[1] Includes unknown activity status.
[2] Includes 1.5 percent of persons 25–64 years of age going to school.
[3] Includes keeping house (females only), retired persons (over 44 years of age), and other activities not specified.
[4] The complement of the percent feeling fair or poor is the percent feeling excellent or good.
[5] Includes unknown family income.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 62 Disability days for the currently employed population, according to occupation, type of disability day, sex, and industry: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Sex and industry	Currently employed persons in thousands[1]	Occupation								
		Total[2]			White collar			All other[3]		
		Restricted activity	Bed disability	Work loss	Restricted activity	Bed disability	Work loss	Restricted activity	Bed disability	Work loss
		Number of days per currently employed person per year								
Both sexes										
All industries[4]	87,119	12.5	4.4	5.3	11.6	4.3	4.5	13.6	4.5	6.2
Agriculture	2,971	12.3	3.3	5.2	*11.4	*3.7	*6.7	12.3	3.2	5.1
Mining	722	14.7	*3.5	5.5	*21.3	*2.0	*3.0	11.8	*4.1	*6.6
Construction	5,203	10.1	2.9	4.2	10.5	*4.1	3.7	9.9	2.4	4.3
Manufacturing	20,297	13.7	4.2	6.0	11.7	3.8	4.8	14.8	4.4	6.6
Transportation and public utilities	5,540	14.9	5.2	7.3	11.2	4.3	4.0	17.7	5.9	9.8
Wholesale and retail trade	17,178	10.8	4.0	4.8	10.5	4.0	4.1	11.2	4.2	6.0
Finance, insurance, and real estate	4,871	12.1	4.4	4.6	11.9	4.4	4.5	15.0	*4.0	*5.8
Service and miscellaneous	24,065	12.6	5.1	4.8	11.6	4.6	4.3	14.2	5.7	5.7
Public administration	5,433	13.4	4.6	6.7	14.4	5.1	6.8	11.4	3.7	6.5
Male										
All industries[4]	52,177	11.7	3.7	5.2	10.5	3.3	4.0	12.7	3.9	6.0
Agriculture	2,495	12.5	3.3	5.7	*13.4	*4.8	*10.9	12.4	3.2	5.4
Construction	4,849	9.3	2.6	4.0	8.0	*3.0	*3.5	9.6	2.4	4.1
Manufacturing	14,166	12.8	3.7	5.6	11.5	3.3	4.6	13.6	3.9	6.1
Transportation and public utilities	4,334	15.6	4.9	7.7	12.0	4.1	3.8	17.4	5.4	9.6
Wholesale and retail trade	9,499	9.7	3.1	4.4	9.4	2.7	3.4	10.0	3.5	5.6
Finance, insurance, and real estate	2,250	12.5	3.5	3.9	12.0	3.2	3.4	*15.9	*4.8	*7.0
Service and miscellaneous	9,763	10.7	4.3	4.5	8.8	3.6	3.8	13.6	5.3	5.6
Public administration	3,652	12.5	3.7	6.1	13.7	4.0	5.9	11.0	*3.2	6.3

Female										
All industries[4]	34,942	13.7	5.5	5.6	12.7	5.3	5.0	15.5	5.8	6.7
Manufacturing	6,131	15.7	5.3	7.0	12.2	4.8	5.3	18.0	5.6	8.0
Wholesale and retail trade	7,679	12.1	5.2	5.4	11.5	5.2	4.8	13.4	5.4	6.7
Finance, insurance, and real estate	2,621	11.8	5.1	5.3	11.8	5.3	5.4	*11.0	*0.6	*0.6
Service and miscellaneous	14,302	13.9	5.6	5.1	13.4	5.3	4.7	14.6	6.0	5.8
Public administration	1,781	15.2	6.7	8.0	15.3	6.6	8.0	*14.9	*7.7	*7.9

[1] Data refer to persons 17 years of age and over.
[2] Includes occupation not specified.
[3] Includes blue collar, service, and farm workers.
[4] Includes industry not specified and industries in which less than 1.5 million persons were employed for which data are not shown separately.

SOURCE: Division of Health Interview Statistics National Center for Health Statistics: Data from the Health Interview Survey.

Table 63. Persons 1–74 years of age needing dental care, according to age and selected needs: United States, 1971–74

(Data are based on dental examinations of a sample of the civilian noninstitutionalized population)

Selected dental needs	Age							
	All ages 1–74 years	1–5 years	6–11 years	12–17 years	18–44 years	45–64 years	65–74 years	
							Total	With natural teeth only
	Number of persons in thousands							
Total	193,976	16,949	23,356	24,654	73,882	42,362	12,774	6,939
	Percent needing specified care							
Cleaning	19.1	2.4	28.2	27.5	22.4	13.5	8.4	15.5
Gingivitis treatment	8.9	*0.1	1.9	13.4	13.8	6.9	3 5	6.4
Periodontal treatment	10.1	*0.2	*0.1	2.0	12.2	19.3	15.4	28.3
Decayed tooth repair	41.1	16.1	52.7	53.6	49.3	30.1	17.9	32.6
Extractions	4.8	*0.8	*0.4	*0.6	5.8	8.4	9.8	18.1
Fixed bridges and/or partials	16.0	*–	*0.1	5.8	25.3	23.3	8.5	15.7
Denture or bridge repair	2.7	*–	*–	*0.0	1.9	6.7	7.7	3.8
Full denture construction	6.6	*–	*0.0	*0.1	4.2	15.6	24.8	19.9

NOTE: In the first three categories only, sample persons who had an indicated need for all three appear only in the periodontal treatment group. Those with an indicated need for cleaning and gingivitis treatment appear only in the gingivitis group. Those with an indicated need for cleaning only appear only in that group.

SOURCE: Division of Health Examination Statistics, National Center for Health Statistics: Data from the Health and Nutrition Examination Survey.

Table 64. Persons 1–74 years of age needing dental care, according to age and family income: United States, 1971–74

(Data are based on dental examinations of a sample of the civilian noninstitutionalized population)

Family income	Age						
	All ages 1–74 years	1–5 years	6–11 years	12–17 years	18–44 years	45–64 years	65–74 years
	Percent of population needing dental care						
Total[1]	64.1	16.6	63.5	67.5	72.7	67.5	61.0
Less than $5,000	68.6	21.2	73.8	77.8	77.7	74.4	60.0
$5,000–$9,999	69.4	19.2	71.0	77.5	79.2	72.9	61.4
$10,000–$14,999	62.2	13.6	62.2	61.5	71.3	66.2	65.7
$15,000 or more	53.6	8.4	43.3	54.5	60.6	57.6	58.8

[1] Includes unknown family income.

NOTE: See table 63 for base population.

SOURCE: Division of Health Examination Statistics, National Center for Health Statistics: Data from the Health and Nutrition Examination Survey.

Table 65. Cases of selected diseases before and after general availability of immunization, according to disease: United States, selected years 1940–76

(Data are based on reporting by State health departments)

Year	Disease						
	Rubella	Measles	Diphtheria	Tetanus	Pertussis	Polio	Mumps
	Number of cases						
1940	---	291,162	15,536	---	183,866	9,804	---
1945	---	146,013	[1]18,675	[1,2]560	[1]133,792	13,624	---
1950	---	319,124	5,796	486	120,718	33,300	---
1955	---	555,156	1,984	462	62,786	[1]28,985	---
1960	---	441,703	918	368	14,809	3,190	---
1961	---	423,919	617	379	11,468	1,312	---
1962	---	481,530	444	322	17,749	910	---
1963	---	[1]385,156	314	325	17,135	449	---
1964	---	458,083	293	289	13,005	122	---
1965	---	261,904	164	300	6,799	72	---
1966	46,975	204,136	209	235	7,717	113	---
1967	46,888	62,705	219	263	9,718	41	---
1968	49,371	22,231	260	178	4,810	53	[1]152,209
1969	[1]57,686	25,826	241	185	3,285	20	90,918
1970	56,552	47,351	435	148	4,249	33	104,953
1971	45,086	75,290	215	116	3,036	21	124,939
1972	25,507	32,275	152	128	3,287	31	74,215
1973	27,804	26,690	228	101	1,759	8	69,612
1974	11,917	22,094	272	101	2,402	7	59,128
1975	16,652	24,374	307	102	1,738	8	59,647
1976	12,491	41,126	128	75	1,010	14	38,492

[1] Indicates year in which immunization became generally available.

[2] 1947 was the first year tetanus was reported nationally; immunization became generally available in 1945.

SOURCE: Center for Disease Control: Reported morbidity and mortality in the United States, 1975 and 1976. *Morbidity and Mortality Weekly Report* 24(54) and 25(53). Public Health Service: Atlanta, Ga., Aug. 1976 and Aug. 1977; Communicable Disease Center: Reported incidence of notifiable diseases in the United States, 1960. *Morbidity and Mortality Weekly Report* 9(53). Public Health Service, Atlanta, Ga., Oct. 1961; National Office of Vital Statistics: Reported incidence of selected notifiable diseases, United States, each division and State, 1920–50. *Vital Statistics—Special Reports.* Vol. 37, No. 9. Public Health Service. Atlanta, Ga., June 1953.

Table 66. Notifiable disease rates, according to disease: United States, selected years 1950–76

(Data are based on reporting by State health departments)

Disease	Year										
	1950	1955	1960	1965	1970	1971	1972	1973	1974	1975	1976
	Number of cases per 100,000 population										
Amebiasis	3.02	2.04	1.90	1.43	1.42	1.33	1.06	1.07	1.30	1.30	1.35
Anthrax	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aseptic meningitis	(1)	(1)	0.89	1.20	3.18	2.51	2.23	2.33	1.53	2.10	1.64
Botulism	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02
Brucellosis (undulant fever)	2.32	0.88	0.42	0.14	0.10	0.09	0.09	0 10	0.11	0.15	0.14
Chickenpox	(1)	(1)	(1)	(1)	(1)	(1)	87.34	97.68	72.20	72.38	96.06
Diphtheria	3.83	1.21	0.51	0.08	0.21	0.10	0.07	0.11	0.13	0.14	0.06
Encephalitis, primary	0 75	1.32	1.30	0.89	0.78	0.74	0.51	0.77	0.50	1.80	0.78
Encephalitis, postinfectious				0.51	0.18	0.21	0.12	0.17	0.15	0.19	0.14
Heaptitis A	(1)	19.45	23.15	17 49	27.87	28.90	25.97	24.18	19.54	16.82	15.51
Hepatitis B					4.08	4.74	4.52	4.03	5.15	6.16	7.14
Hepatitis, unspecified	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	3.95	3.36	3.57
Leprosy	0.03	0.05	0.03	0.05	0.06	0.06	0.06	0.07	0.06	0.08	0.07
Leptospirosis	0.02	0.01	0.03	0.04	0.02	0.03	0.02	0.03	0.03	0.04	0.03
Malaria	1.44	0.32	0.04	0.08	1.50	1.15	0.36	0.11	0.14	0.18	0.22
Measles (rubeola)	211.01	337.88	245.42	135.33	23.23	36.50	15.50	12.72	10.45	11.44	19.16
Meningococcal infections	2.50	2.10	1.26	1.57	1.23	1.10	0.64	0.66	0.64	0.69	0.75
Mumps	(1)	(1)	(1)	(1)	5.55	65.33	38.42	36.23	29.00	27.99	17.93
Pertussis (whooping cough)	79.82	38.21	8.23	3 51	2.08	1.47	1.58	0.84	1 15	0.82	0.47
Poliomyelitis, total	22.02	17.64	1.77	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.01
Paralytic		8.43	1.40	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.01
Psittacosis	0.02	0.20	0.06	0.03	0.02	0.02	0.02	0.02	0.08	0.02	0.04
Rabies in man	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	–	0.00	0.00
Rheumatic fever, acute	(1)	(1)	5.01	2.58	2.45	2 16	2.01	1.92	1 79	2.01	1.32

Rubella (German measles)	(1)	(1)	(1)	(1)	27.75	21.86	12.25	13.25	5.64	7.81	5.82
Rubella congenital syndrome	(1)	(1)	(1)	(1)	0.04	0.03	0.02	0.02	0.02	0.01	0.01
Salmonellosis, excluding typhoid fever	(1)	3.32	3.85	8.87	10.84	10.63	10.64	11.35	10.40	10.61	10.74
Shigellosis	15.45	8.47	6.94	5.70	6.79	7.83	9.70	10.79	10.69	7.78	6.15
Tetanus	0.32	0.28	0.20	0.16	0.07	0.06	0.06	0.05	0.05	0.05	0.03
Trichinosis	0.22	0.16	0.09	0.10	0.05	0.05	0.04	0.05	0.06	0.09	0.05
Tuberculosis (newly reported active cases)	80.50	46.40	30.83	25.33	18.22	17.07	15.79	14.77	14.13	15.74	14.96
Tularemia	0.61	0.36	0.22	0.14	0.08	0.09	0.07	0.08	0.07	0.06	0.07
Typhoid fever	1.64	1.04	0.45	0.23	0.17	0.20	0.19	0.32	0.21	0.18	0.20
Typhus fever, flea-borne (murine)	0.45	0.08	0.04	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.03
Typhus fever, tick-borne (Rocky Mountain spotted)	0.31	0.18	0.11	0.15	0.19	0.21	0.25	0.32	0.36	0.40	0.44
Venereal diseases (newly reported civilian cases):											
Syphilis[2]	146.02	76.15	68.78	58.81	45.46	46.99	44.15	42.03	39.95	33.00	33.69
Primary and secondary	16.73	4.02	9.06	12.16	10.94	11.64	11.83	11.93	12.11	12.09	11.14
Early latent	39.71	12.48	10.11	9.10	8.11	9.50	10.07	11.33	11.98	12.57	11.91
Late and late latent	76.22	53.83	45.91	35.09	25.05	24.47	21.05	17.81	15.19	12.81	10.29
Congenital	8.97	3.33	2.48	1.86	0.97	1.00	0.85	0.73	0.54	0.43	0.29
Gonorrhea	192.45	146.96	145.33	169.36	298.52	328.11	371.62	404.92	432.12	472.91	470.47
Chancroid	3.34	1.65	0.94	0.51	0.70	0.65	0.68	0.56	0.45	0.33	0.29
Granuloma inguinale	1.19	0.30	0.17	0.08	0.06	0.04	0.04	0.03	0.02	0.03	0.03
Lymphogranuloma venereum	0.95	0.47	0.47	0.46	0.30	0.34	0.37	0.20	0.19	0.17	0.17

[1] Not reported nationally.
[2] Includes stage of syphilis not stated.

NOTE: Rates greater than 0 but less than 0.005 are shown as 0.00. The total resident population was used to calculate all rates except venereal diseases, for which the civilian resident population was used.

SOURCES: Center for Disease Control: Reported morbidity and mortality in the United States, 1976. *Morbidity and Mortality Weekly Report* 25(53). Public Health Service, Atlanta, Ga., Aug. 1977; National Center for Health Statistics: Data computed by the Division of Analysis from data compiled by the Center for Disease Control; Venereal Disease Control Division, Center for Disease Control: Selected data.

Table 67. Provisional age-adjusted incidence and death rates, according to selected cancer sites and sex: Cancer Surveillance, Epidemiology, and End Results Reporting (SEER) Program localities, 1973–76[1]

(Data are based on reporting from cancer registries and on the national vital registration system)

Cancer site and sex	Age-adjusted U.S. mortality	SEER program localities									
		All SEER localities[2]	Connecticut	Detroit	Iowa	New Orleans[4]	New Mexico	Utah	Seattle[3]	Hawaii	San Francisco
		Number per 100,000 population									
ALL SITES											
Incidence											
Both sexes		324.4	336 1	316 3	304 0	327 8	283 7	277.8	349.9	287.9	358.0
Male		368 1	389.7	365 9	346 7	423 4	298.6	313.4	394 1	312.4	392.0
Female		300 0	307 2	285 5	279.7	268.6	273.5	256 6	329.2	269.4	345.5
Deaths											
Both sexes	165 8	167 7	173 8	178 4	156 8	200.4	152.0	122.6	168.5	142.3	173.9
Male	211 1	212.0	223 3	230 7	200.5	273.0	173.4	151 5	211.0	171.4	215.7
Female	133 9	136.8	141 7	140 9	125 8	152 6	134.1	101.6	139.8	115.6	147.0
BREAST CANCER											
Incidence											
Both sexes		46 3	50 3	44 0	44.1	41 1	37 8	40.3	49.8	34.2	52.7
Female		84.9	90 6	80 4	80 5	71 9	71 4	75.1	92.3	69.3	96.4
Deaths											
Both sexes	15.0	15.3	17 5	15.8	14 4	16 1	11.4	11.9	16.1	7.6	16.4
Female	26 9	27 7	31 0	28 7	26 0	28 1	21 6	22.0	29.3	15.6	29.5
LUNG CANCER											
Incidence											
Both sexes	. .	45.2	44 6	48 1	39 9	61.4	37.0	23.8	49.0	39.0	51.2
Male		76 1	77 4	82.6	72 6	110.3	56.0	42.3	79 5	55.6	81.2
Female	.	21.1	20.8	20 8	14 1	26.1	20.3	8.6	25.3	22.9	28.8

Deaths											
Both sexes	36.9	36.2	35.9	40.9	32.4	47.7	29.8	18.7	39.3	30.4	38.4
Male	65.3	62.9	64.6	72.1	60.0	88.1	46.0	33.9	66.7	45.1	62.9
Female	15.0	15.6	15.2	16.3	10.7	18.8	15.6	6.2	18.2	16.2	20.4
COLON CANCER[4]											
Incidence											
Both sexes	...	32.5	37.6	31.1	33.4	30.2	23.6	24.1	32.0	25.1	34.6
Male	...	35.6	43.0	36.1	33.9	34.9	22.4	25.9	34.8	28.5	38.7
Female	...	30.4	34.2	27.7	33.4	27.3	24.6	22.8	30.5	21.9	32.1
Deaths											
Both sexes	17.9	18.3	20.4	18.9	19.4	18.3	15.2	12.9	17.3	12.0	18.0
Male	19.9	20.8	23.5	22.3	21.9	22.5	15.3	13.7	20.1	13.3	20.9
Female	16.5	16.5	18.3	16.7	17.7	15.4	15.1	12.2	15.5	10.7	16.2
PROSTATE CANCER											
Incidence											
Male	...	65.4	59.6	62.5	61.3	66.4	62.3	78.5	80.5	48.6	69.8
Deaths											
Male	22.0	22.3	22.1	24.4	23.0	26.5	20.3	22.3	21.8	10.9	21.2

[1] Incidence and death rates are an average for the period 1973–76.
[2] Includes Atlanta for which only 1976 data are available.
[3] Data are for 1974–76.
[4] Excludes rectal cancer.

NOTE: The incidence (newly diagnosed cases) rates and death rates have been age adjusted by the direct method, using as the standard population the age distribution of the population of the United States as enumerated in 1970.

SOURCE: Biometry Branch, National Cancer Institute: Data from the Cancer Surveillance, Epidemiology, and End Results Reporting Program.

Table 68. Provisional 3-year relative survival rates for white people, according to selected cancer sites and sex: Cancer Surveillance, Epidemiology, and End Results (SEER) Program localities, 1973

(Data are based on reporting from cancer registries and on the national vital registration system)

Cancer site and sex	SEER program localities					
	All combined	Connecticut	Detroit	New Mexico	Utah	San Francisco
	Percent surviving 3 years					
Breast						
Both sexes	78	79	77	79	82	78
Female	78	79	77	79	82	78
Lung						
Both sexes	12	13	10	13	10	13
Male	11	13	9	13	8	11
Female	16	15	14	13	19	18
Colon						
Both sexes	49	53	48	46	53	42
Male	47	53	43	46	55	43
Female	50	54	53	46	51	41
Prostate						
Male	68	66	62	67	76	72

SOURCE: Biometry Branch, National Cancer Institute· Data from the Cancer Surveillance, Epidemiology, and End Results Program.

Table 69. Tuberculosis case rates, according to selected characteristics: United States, selected years 1960–76

(Data are based on reporting by State health departments)

Selected characteristic	Year					
	1960	1965	1970	1972	1974	1976[1]
	Cases per 100,000 resident population					
Total	30.8	25.3	18.3	15.8	14.2	15.0
Color and sex						
White	24.4	18.6	12.4	10.8	9.7	9.9
Male	33.6	25.6	17.4	14.9	13.1	13.4
Female	15.5	11.8	7.7	6.8	6.4	6.5
All other	80.6	74.9	59.0	50.3	45.1	48.0
Male	102.6	94.7	78.2	67.6	61.2	64.2
Female	59.6	56.4	40.9	34.0	30.3	33.3
Age						
Under 5 years	10.8	13.4	8.8	8.0	7.5	6.5
5–14 years	6.1	8.0	4.4	3.1	2.6	2.1
15–24 years	20.5	15.0	9.4	7.6	6.3	6.0
25–44 years	36.8	29.0	20.7	17.4	15.4	15.4
45–64 years	51.1	40.3	31.1	26.5	23.6	25.2
65 years and over	62.9	51.5	37.8	35.4	32.5	36.8
Size of city						
500,000 or more	---	45.4	34.1	29.9	25.7	28.3
250,000–500,000	---	31.5	27.1	24.0	21.3	24.5
100,000–250,000	---	28.8	22.7	18.3	16.1	17.8
Less than 100,000	---	19.4	13.5	11.7	10.7	11.2

[1] Case data subsequent to 1974 are not comparable to prior years because of changes in reporting criteria (reactivations were counted as new cases in 1975) which became effective in 1975.

SOURCE: Center for Disease Control: *Reported Tuberculosis Data, 1962.* Public Health Service. Atlanta, Ga., 1963; *Tuberculosis in the United States, 1974.* DHEW Pub. No. (CDC)76–8322, Public Health Service. Atlanta, Ga., 1976; Tuberculosis Control Division: Personal communication, 1978.

Table 70. Gonorrhea rates, according to sex and age: United States, selected years 1956–76

(Data are based on reporting by State health departments)

Sex and age	Year						
	1956	1960	1972	1973	1974	1975	1976
	Cases per 100,000 civilian population						
Both sexes, all ages	135.7	145.3	371.6	404.9	428.7	472.9	470.5
Under 15 years	7.1	8.7	17.6	19.4	21.1	23.2	22.6
15–19 years	415.7	412.7	1,035.4	1,155 0	1,216.5	1,292.2	1,253.6
20–24 years	781.8	859.2	1,813.5	1,918.2	1,984.0	2,128.3	2,070.6
25–29 years	434.2	485.5	921.6	1,000.9	1,041.2	1,162.6	1,136.7
30–39 years	171.5	192.1	347.2	354 8	365.6	409.2	414.2
40–49 years	41.9	52.1	84.6	89.5	93.5	105.1	109.6
50 years and over	7.5	8.6	12.9	14.9	15.3	17.6	17.8
Male, all ages	192.4	210.2	506.1	507.2	527.7	581.3	579.9
Under 15 years	2.9	5.4	10.3	10.3	11.0	10.9	11.1
15–19 years	462.9	480.9	1,075.6	1,075.2	1,089.7	1,121.5	1,061.5
20–24 years	1,255.8	1,354.4	2,593.0	2,479.4	2,496.2	2,659.8	2,574.1
25–29 years	692.6	779.1	1,416.2	1,461.6	1,511.6	1,674.7	1,635.7
30–39 years	277.4	313.0	560.8	546.2	564.3	635.0	653.4
40–49 years	63.7	83.6	141.9	145.2	150.2	171.6	181.8
50 years and over	11.3	14.2	22.4	25.9	25.7	30.3	31.9
Female, all ages	81.7	83.6	246.0	309.4	336.2	371.6	368.2
Under 15 years	11.5	12.1	25.1	28.9	31.6	35.9	34.6
15–19 years	372.0	347.1	995.0	1,234.5	1,342.9	1,462.4	1,445.8
20–24 years	406.8	443.7	1,110.5	1,406.7	1,511.2	1,631.4	1,596.4
25–29 years	198.6	217.8	456.0	565.8	595.7	676.1	661.7
30–39 years	73.7	80.3	148.1	176.5	180.3	198.3	190.2
40–49 years	21.1	22 2	31.1	37.3	40.3	42.4	41.6
50 years and over	4.0	3.6	5.1	5.9	6.8	7.4	6.5

NOTE: Cases not reported by age have been included on the basis of the known age distribution. Rates for 1956 exclude Alaska and Hawaii.

SOURCE: Center for Disease Control: *VD Fact Sheet, 1975.* 32 ed. DHEW Pub. No. (CDC) 76–8195. Public Health Service. Atlanta, Ga., 1976; *Reported Morbidity and Mortality in the United States, 1976.* Annual Summary 1976. DHEW Pub. No. (CDC) 77–8241. Public Health Service. Washington. U.S. Government Printing Office, Aug. 1977.

Table 71. Infants weighing 2,500 grams or less at birth, according to marital status, race, educational attainment, and age of mother: United States, reporting areas only, 1976

(Data are based on the national vital registration system)

Years of school completed and age of mother	All births			Births to married women			Births to unmarried women		
	All races[1]	White	Black	All races[1]	White	Black	All races[1]	White	Black
All years of school[2]	Percent of infants weighing 2,500 grams or less at birth								
All ages	7.3	6.1	13.0	6.4	5.8	11.1	12.7	9.8	14.8
Under 15 years	15.0	12.1	16.9	13.9	13.7	20.2	15.2	11.4	16.8
15–17 years	11.2	9.1	15.1	9.3	8.8	14.4	12.9	9.7	15.2
18 years	9.8	8.0	14.5	8.2	7.6	13.7	12.5	9.6	14.8
19 years	8.9	7.2	13.9	7.4	6.7	12.7	12.6	10.0	14.5
20–24 years	7.2	6.0	12.7	6.3	5.8	11.1	12.5	9.6	14.5
25–29 years	6.0	5.2	11.3	5.6	5.2	10.3	12.0	9.5	13.9
30–34 years	6.4	5.7	11.6	6.1	5.6	10.6	13.2	11.2	14.8
35–39 years	8.0	7.0	13.1	7.5	6.9	11.9	14.5	11.9	16.6
40 years and over	9.3	8.4	12.6	8.8	8.2	11.9	13.9	12.8	14.8
Less than 9 years of school									
All ages	10.0	8.6	15.1	8.7	8.2	13.0	13.6	10.8	16.4
Under 15 years	14.7	11.8	16.8	14.6	13.8	28.3	14.8	10.9	16.6
15–17 years	12.2	10.5	16.5	10.4	10.0	15.4	14.1	11.5	16.6
18 years	11.1	9.8	16.1	10.1	9.5	14.6	13.4	10.9	16.8
19 years	10.8	9.4	17.3	9.4	8.9	14.9	14.6	11.4	18.7
20–24 years	9.4	8.4	14.6	8.6	8.1	13.8	12.8	10.8	15.2
25–29 years	8.2	7.2	13.5	7.4	7.0	11.7	12.3	9.3	15.9
30–34 years	8.8	7.5	13.9	8.0	7.3	12.3	12.9	9.3	16.5
35–39 years	10.0	8.9	13.5	9.2	8.6	11.9	14.4	11.9	16.8
40 years and over	9.9	9.0	13.0	9.4	8.8	13.2	12.7	11.4	12.9
9–11 years of school									
All ages	10.0	8.3	14.4	8.6	7.9	12.7	13.2	10.3	13.4
Under 15 years	14.8	12.1	16.1	10.8	12.1	6.9	15.3	12.1	16.4
15–17 years	11.1	9.0	14.9	9.2	8.8	14.4	12.7	9.5	15.0
18 years	10.4	8.5	15.5	8.7	8.0	14.7	13.3	10.3	15.9
19 years	9.9	8.2	15.3	8.3	7.5	14.4	13.7	11.3	15.7
20–24 years	9.4	7.8	14.3	8.1	7.4	12.4	13.7	10.6	15.8
25–29 years	9.2	7.9	13.1	8.3	7.6	12.0	13.3	11.2	14.7
30–34 years	9.7	8.5	13.0	8.9	8.3	11.5	14.1	11.3	15.8
35–39 years	10.9	9.9	13.0	10.1	9.6	11.6	15.3	14.0	16.1
40 years and over	11.9	11.0	13.2	11.1	10.3	12.4	16.5	19.6	15.2
12 or more years of school									
All ages	6.2	5.4	11.6	5.7	5.2	10.3	11.6	8.9	13.5
Under 15 years	—	—	—	—	—	—	—	—	—
15–17 years	9.8	7.5	14.1	7.7	7.2	12.9	12.2	8.3	14.4
18 years	8.9	7.2	13.2	7.5	6.9	12.7	11.3	8.4	13.3
19 years	7.9	6.4	12.7	6.7	6.0	11.6	11.5	8.9	13.3
20–24 years	6.4	5.4	11.8	5.8	5.3	10.5	11.7	8.8	13.6
25–29 years	5.5	4.9	10.4	5.3	4.9	9.7	11.2	8.8	12.9
30–34 years	5.8	5.2	10.6	5.6	5.1	9.9	12.8	12.0	13.5
35–39 years	7.0	6.2	12.7	6.7	6.2	11.6	14.0	10.3	17.5
40 years and over	8.2	7.5	11.4	8.0	7.5	10.6	12.1	8.7	14.9

[1] Includes all other races not shown separately.
[2] Includes level of education not specified.

NOTE: In 1976, education of mother and marital status of mother were reported for 1,818,744 births by 35 States and the District of Columbia.

SOURCE: Division of Vital Statistics, National Center for Health Statistics: Selected data.

Table 72. Infants weighing 2,500 grams or less at birth, according to educational attainment, race, and age of mother and month of pregnancy during which prenatal care began: United States, reporting areas only, 1976

(Data are based on the national vital registration system)

Race, age, and month prenatal care began	Years of school completed					
	Total[1]	Less than 9	9–11	12	13–15	16 or more
	Percent of infants weighing 2,500 grams or less at birth					
Total[2]						
All ages[3]	7.4	9.9	10.2	6.8	5.9	4.9
1st or 2nd month	6.4	8.6	9.2	6.1	5.5	4.9
3rd month	6.9	9.7	9.5	6.5	5.6	4.5
4th–6th month	8.7	9.7	10.4	7.8	6.9	5.4
7th–9th month	8.6	9.3	9.8	7.6	7.0	5.3
No prenatal care	23.0	22.0	24.2	21 9	20.6	21.1
White						
All ages[3]	6.2	8 6	8.4	5.8	5.1	4.5
1st or 2nd month	5.6	7 7	7.8	5.4	4.9	4.6
3rd month	5.9	8.6	7.9	5.6	4.9	4.0
4th–6th month	7.1	8 2	8.6	6.4	5.7	4.8
7th–9th month	7 1	8 3	8.1	6.3	5.6	4.1
No prenatal care	19 2	19.2	20.8	18.0	14.7	17.8
20–29 years[3]	5 7	7.6	7 9	5.5	5.0	4.5
1st or 2nd month	5.3	7 1	7 4	5.3	4.8	4.6
3rd month	5 4	7.7	7.4	5.4	4.8	4.0
4th–6th month	6.5	7.2	8.4	6.2	5.5	4.8
7th–9th month	6.7	7 4	8.2	6.1	5 3	3.6
No prenatal care	16.4	16.2	17.0	16.3	13.7	18.0
30–39 years[3]	6 1	8.0	9.2	6.3	5.5	4.6
1st or 2nd month	5.7	7.3	8.8	6.1	5.3	4.6
3rd month	5.7	7 7	8 4	6.0	5.2	4.0
4th–6th month	7.0	7.6	9.5	6.8	6.1	4.8
7th–9th month	7.1	7.4	8.9	6.5	6.4	5.2
No prenatal care	18.0	16.2	21.1	17.4	15.2	17.9

Black						
All ages[3]	13.1	14.8	14.7	12.0	11.3	9.5
1st or 2nd month	11.9	13.1	14.1	11.3	10.9	8.8
3rd month	12.6	14.3	14.1	11.7	10.8	10.4
4th–6th month	12.8	14.2	13.9	11.9	11.0	9.1
7th–9th month	12.2	13.0	13.4	10.8	10.2	11.1
No prenatal care	28.6	31.4	28.7	26.7	28.6	32.3
20–29 years[3]	12.3	13.7	14.1	11.7	11.1	9.3
1st or 2nd month	11.4	12.1	13.6	11.1	10.7	8.7
3rd month	11.7	14.2	13.2	11.2	10.4	10.3
4th–6th month	12.2	12.6	13.5	11.6	11.2	8.6
7th–9th month	11.4	11.9	13.0	10.5	9.6	11.6
No prenatal care	26.7	31.7	26.1	24.6	29.8	32.5
30–39 years[3]	12.1	13.0	13.4	11.6	11.0	9.9
1st or 2nd month	10.6	11.2	12.3	10.0	11.2	9.2
3rd month	11.8	12.6	11.8	12.2	10.2	10.5
4th–6th month	12.2	13.6	13.6	11.7	9.3	9.7
7th–9th month	11.6	11.0	12.8	10.1	13.7	9.4
No prenatal care	28.4	24.7	26.7	30.1	32.4	33.3

[1] Includes births for whom education of mother was not stated.
[2] Includes all other races not shown separately.
[3] Includes births for whom month prenatal care began was not stated.

NOTE: In 1976, month prenatal care began and education of mother were reported for 2,254,275 births by 41 States and the District of Columbia.

SOURCE: Division of Vital Statistics, National Center for Health Statistics: Selected data.

SECTION II

Utilization of Health Resources[a]

A. Ambulatory Care

While the number of physicians per 10,000 population has increased during the past several years, the overall number of ambulatory physician visits per person per year has been fairly stable at about 5 visits.

The physician visit rate for white people has also remained stable during the 1970's, whereas the rate for people in the all other color group has been increasing. During 1975–76, the overall visit rate for white people was 9 percent higher than the visit rate for all others. However, white people 25–44 years of age reported 9 percent fewer visits per person per year, and those 45–64 years of age reported 6 percent fewer visits per person per year than all others.

Physician visit rates tend to be higher for older people than for younger ones, reflecting the increased frequency, complexity, and chronicity of conditions associated with aging. During 1975–76, children under 18 years of age averaged 4.1 visits per person per year, while people 65 years of age and over averaged 6.7 visits per person per year.

During the 1960's, individuals in families with higher incomes averaged more physician visits per person per year than those in families with lower incomes. However, since 1970, this trend has reversed. During 1975–76, people in low-income families (less than $5,000 per year) reported 6.0 visits per person per year compared with 4.9 visits reported by persons in high-income families ($15,000 or more per year). This higher use of physician services among the poor may reflect a greater need for services because of deficient health resulting from environmental factors, past inequities in receiving health care, and reluctance to obtain medical services because of the expense involved. For example, during 1976, people in low-income families reported 32.5 days of restricted activity per person per year compared with 12.8 days reported by people in high-income families. Medicaid and Medicare have permitted the use of physicians' services by individuals with low incomes to become more nearly consonant with the severity of their health problems.

People who assessed their health to be fair or poor had a physician visit rate almost 3 times the rate for those who assessed their health to be excellent or good, 10.9 visits per person per year compared with 4.2 visits.

Disabling illness, low income, and a lack of private health insurance coverage tend to occur together. Most individuals receiving Social Security disability benefits have their medical care expenses covered under Medicare; and individuals receiving Supplementary Security Income payments have their expenses covered under Medicaid, but many disabled individuals have no third-party coverage for their expenses. Private health insurance for people under 65 years of age is

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[a]Prepared by Joseph Gfroerer and Cecilia A. Young, Division of Analysis, National Center for Health Statistics.

NOTE: Unless otherwise noted, data are from the ongoing data-collection systems of the National Center for Health Statistics. In many instances the data have been published in the *Vital and Health Statistics* series.

generally obtained through the regular employment of a family member, but many individuals who suffer from disabling conditions are unable to hold steady jobs that would enable them to obtain health insurance. Such individuals are also frequently limited to the relatively low incomes provided by public disability programs.

In 1975, the prevalence of activity limitation was greater among individuals without private health insurance than among those with some coverage. Because of the high prevalence of ill health among the non-insured, they used appreciably more hospital care than those with insurance and, at certain ages, they averaged more visits with physicians.

Health insurance reimbursements for ambulatory care are generally paid on a fee-for-service basis. Payments for a particular patient directly reflect the visits and the diagnostic and therapeutic procedures received by that patient. However, a small segment of the population has its care covered under an alternative insurance scheme, a prepaid group practice plan. In 1975, there were only 6 million people under 65 years of age, or 3 percent of the population, with such coverage.

The prepaid group practice provides a wide variety of services for an annual per capita premium. Generally, the out-of-pocket payment a patient can expect to make for care under a fee-for-service arrangement is greater than the out-of-pocket payment under a prepaid group plan since the latter typically provides comprehensive coverage with little or no direct patient payments. Furthermore, incentives for keeping in-hospital care to a minimum are generally stronger for physicians working under the prepaid group plan arrangement than for physicians working on a fee-for-service basis.

Under Health Maintenance Organization legislation, the Federal Government has been actively promoting the growth of membership in prepaid group plans. Therefore, the use of medical services by subscribers to prepaid group plans is of interest, even though there is a relatively small segment of the population with that type of coverage at present.

In 1975, subscribers to prepaid group plans had appreciably more ambulatory physician contacts but fewer days in the hospital than individuals with other forms of coverage. However, prepaid group plan memberships are considerably more concentrated in metropolitan areas and in the West than memberships in other private health insurance plans. Since the use of ambulatory services tends to be above average in metropolitan areas, and the use of hospital services tends to be below average in the West, the distinctive pattern of service use in prepaid group plans may in part reflect these geographic factors. Nevertheless, the national statistics on the use of services are congruent with other research findings indicating that, within a given community, there is a greater tendency for prepaid group plan members to substitute ambulatory care for in-hospital care than for people with other types of coverage. The relative absence of financial barriers for the subscriber to use ambulatory services and the incentives to the physician to employ ambulatory services rather than in-hospital services undoubtedly contribute to the differentials.

Physician visit rates, by place of residence, varied across the United States, with a range from 5.7 visits per person per year in the West to 4.7 visits in the North Central and South in 1975–76. People living outside of metropolitan areas made fewer visits per person per year than those living in metropolitan areas. This may be a reflection of the greater concentration and availability of practicing physicians in metropolitan areas.

Physician visits are made in a number of settings including private offices, hospital outpatient clinics or emergency rooms, and various types of freestanding clinics. Almost 70 percent of the population in 1974 received care in these settings with 63 percent of the population contacting a physician in his or her private office. People in high-income families were more likely to use only the doctor's office than those in low-income families. The reverse was true for all other places of care. Contact with all other settings was more common among people in low-income families. White people were more likely to use the doctor's office only or in combination

with the hospital outpatient department than all other people. Conversely, all other people were more likely than white people to use only the hospital outpatient department.

Two socioeconomic factors associated with levels of utilization by place of care are family income and race. People in each age group with low family incomes reported more visits to the hospital outpatient clinic or emergency room than those with high family incomes during 1975–76. Conversely, people with high family incomes generally reported more visits to the doctor's office and more telephone contacts than those with low family incomes. White people also reported more visits to the doctor's office and more telephone contacts than all other people, while all other people reported more visits than white people to the hospital outpatient clinic or emergency room.

The levels of utilization of medical services are sometimes used as a proxy measure of health status. However, the use of health services may only indicate accessibility of services, not actual health status or need for medical care, since improved accessibility to care tends to result in increased use of services.

In addition to the physician visit data collected through the national Health Interview Survey, the National Center for Health Statistics collects detailed data on visits to physicians in their private office practices through the National Ambulatory Medical Care Survey. Both surveys reported about three office visits per person per year during 1975–76. Office visits per person per year generally increased with age. However, the number of visits per person per year was higher for females than for males, for white people than for all others, and for people in metropolitan areas than for those in nonmetropolitan areas.

Overall, physicians reported medical or special exams as the most common principal reason for office visits in 1975–76. Acute upper respiratory infection, except influenza, was the leading principal disease diagnosis for both males and females. This condition was most often diagnosed in children under 15 years of age. For males, heart disease was the next most common disease diagnosis; for females, it was hypertension. For both of these diseases, there was a sharp increase in the number of office visits per person per year between people 25–44 years of age and those 45–64 years of age, and the number of visits per person per year continued to rise for people 65 years of age and over.

Primary care physicians provided the majority of office-based ambulatory care; general and family physicians alone accounted for 2 out of every 5 visits.

Visits to specialists varied by the location of practice. Sixty-two percent of the office visits in nonmetropolitan areas were to general and family practitioners compared with 32 percent in metropolitan areas. The ratios of general and family practitioner visits to internist visits for hypertension and heart disease were 1.5 and 0.9, respectively, in metropolitan areas compared with 6.3 and 3.3, respectively, in nonmetropolitan areas. The ratio of general and family practitioner visits to obstetrician and gynecologist visits for prenatal care was 0.2 in metropolitan areas compared with 0.9 in nonmetropolitan areas.

The average office-based physician dealt chiefly with patients who had been seen before; new patient visits accounted for only 15 percent of the visits during 1975–76. Similarly, the average office-based physician dealt chiefly with problems for which the patient had already been treated. Slightly more of the visits in metropolitan areas were for "old" problems (63 percent) than in nonmetropolitan areas (59 percent). Many of the "old" problems were chronic conditions such as hypertension, heart disease, diabetes mellitus, hay fever, and malignant neoplasms.

The largest proportion of office visits, about 49 percent in 1975–76, received "not serious" evaluations from physicians, which may reflect the substantial number of visits for preventive care, routine maintenance care, and care for self-limiting conditions such as prenatal care, eye examinations, and treatment for the common cold.

Drug therapy was the most frequent form of therapy provided in office-based practice; about 44 percent of all visits in 1975–76 resulted in a drug being prescribed. In metropolitan areas, 42 percent of all visits resulted in such treatment compared with 48 percent of all visits in nonmetropolitan areas.

The duration of visit is defined as the time spent in face-to-face encounter between physician and patient. In about 73 percent of the office visits, face-to-face contacts lasted 15 minutes or less. By location of practice, 72 percent of the office visits in metropolitan areas lasted 15 minutes or less compared with 78 percent in nonmetropolitan areas. The duration of visit varied by diagnosis. For example, the duration of visit was 5 minutes or less for 40 percent of the visits for prenatal care, whereas the duration of visit was 31 minutes or more for nearly 50 percent of the visits for neuroses and psychotic disorders.

Generally, in office-based practices, some form of followup was scheduled. For about 60 percent of visits in 1975–76, the patient was directed to make a return visit at a specified time—by location of practice, the disposition of 63 percent of the visits in metropolitan areas was to make a return visit at a specified time compared wth 54 percent of the visits in nonmetropolitan areas.

During 1974–75, 0.5 visits per person per year were reported for general checkups, eye exams, and immunizations and 4.2 visits were reported for diagnoses or treatments. Visit rates for general checkups were highest for children under 18 years of age at 0.4 visits per person per year, and visit rates for diagnoses or treatments were highest for people 65 years of age and over at 6 visits per person per year.

Of the nearly 58 million episodes of injuries reported in 1975, almost 43 percent were first medically attended in hospital outpatient clinics or emergency rooms with another 33 percent treated at the doctor's office. For almost 13 percent of the injuries, medical advice was first sought by telephone. Use of the hospital outpatient clinics or emergency rooms generally decreased, while use of the doctor's office generally increased, with increasing age and increasing family income.

The Consumer Product Safety Commission reports on the products associated with injuries treated in hospital emergency rooms. In 1977, the Commission estimated that over 9 million product-related injuries were treated in hospital emergency rooms; more than half of these were to persons under 18 years of age, and more than 60 percent were to males. For all ages and especially for the older age groups, a home structure (including doors, windows, stairs, etc.) was the major cause of injury. In addition, a considerable number of injuries to persons under 45 years of age were related to the use of some type of sports ball or other sports and recreational equipment.

The role of drug abuse in emergency room utilization is investigated by a reporting system of the Drug Enforcement Administration and National Institute on Drug Abuse. In the May 1976–April 1977 report, suicide attempts constituted 39 percent of the drug-abuse reports. With increasing age, psychic effects and dependence were reported less and suicide attempts or gestures were reported more as the motivation for taking the drug. About 48 percent of all drug cases for females involved a suicide attempt, while for males the motivational factors were about evenly distributed among psychic effects, dependence, and suicide. Diazepam (Valium) was reported in 18 percent of the drug abuse cases, and alcohol used in combination with at least one other drug was reported in 16 percent. Diazepam was the most commonly reported drug in each age group; alcohol in combination with another drug was the second most common, except for people 20–29 years of age who reported heroin and morphine more often.

The use of another major component of ambulatory service, dental care, which is often viewed as an elective form of care, varies widely between different socioeconomic groups. During 1975–76, 1.6 dental visits per person per year were reported. However, only about half of the population in 1976 saw a dentist at all during the year. White people reported nearly twice as many dental visits per person per year as all others, and people in families with high incomes reported more than twice as many dental visits as those in low-income families. Only 34 percent of the low family income population visited the dentist during 1976 compared with 62 percent of the high family income population. The largest differences in the number of dental visits per year by income

were for children under 18 years of age and people 65 years of age and over.

Family income was also related to different reasons for visiting a dentist. During 1971–74, people 25–74 years of age who saw a dentist reported that the main reason for the visit was for a checkup or cleaning. However, people with less than $4,000 family income who reported a visit said that the main reason for their visit was to have a tooth pulled or to have other surgery, whereas people in every other family income group reported that the main reason was for a checkup or cleaning. This suggests that the poor with limited resources assign a relatively low priority to dental care until a serious problem occurs and, as a result, they lag behind the rest of the population in their use of dental services.

Differences also existed in the patterns of dental care according to place of residence, with people living in metropolitan areas reporting 43 percent more dental visits than those living outside metropolitan areas. As in the case of physician utilization, this may reflect the greater concentration and availability of licensed dentists practicing in metropolitan areas.

In addition to physician and dental care, other components of ambulatory care include services received from chiropractors, podiatrists, and physical therapists. In 1974, an estimated 7.5 million people or 3.6 percent of the population used the services of a chiropractor; 5.0 million people or 2.4 percent consulted a podiatrist; and 3.2 million people or 1.6 percent used the services of a physical therapist. Contact with each of these practitioners was, with few exceptions, more prevalent among older people and white people than it was among younger people and those in the all other color group.

Care received for mental disorders is another component of ambulatory utilization. The increase in the use of outpatient psychiatric services is associated with reductions in the use of inpatient psychiatric hospital services, increases in the use of new drug therapies, and expansion of insurance benefits for outpatient psychiatric services. In 1975, an estimated 32.0 million people or 15 percent of the population had mental disorders. About 60 percent received care from the outpatient medical sector, such as the doctor's office, the neighborhood health center, or the hospital outpatient department. About 15 percent received care from the outpatient mental health sector, such as the community mental health center or the freestanding multiservice clinic.

Table 73. Physician visits, according to source or place of care and selected characteristics: United States, average annual 1975–76

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Selected characteristic	Source or place of care					
	All sources or places of care[1]	Doctor's office[2]	Hospital outpatient department[3]	Telephone	Company or industry clinic	Home
	Visits per 1,000 population					
Total[4]	4,997.6	3,394.7	649.4	611.7	45.0	54.4
Sex						
Male	4,297.9	2,849.4	647.0	465.4	74.2	42.4
Female	5,649.8	3,903.0	651.5	748.2	17.8	65.6
Color						
White	5,053.6	3,489.1	580.8	659.6	44.0	57.5
All other	4,626.0	2,768.4	1,103.9	293.9	52.0	33.8
Age						
Under 18 years	4,119.6	2,612.3	583.4	696.5	*1.3	25.1
18–24 years	4,701.6	2,994.0	681.7	517.1	64.9	*22.6
25–44 years	4,972.3	3,407.5	627.9	595.7	88.2	14.1
45–64 years	5,680.2	4,004.9	768.6	554.4	65.0	64.4
65 years and over	6,732.1	5,017.1	625.1	623.1	*7.5	262.0
Family income						
Less than $5,000	5,950.7	3,769.1	1,031.3	559.8	*19.7	109.9
$5,000–$9,999	5,035.3	3,357.5	787.3	511.1	37.7	51.3
$10,000–$14,999	4,779.3	3,274.9	619.8	627.9	64.5	22.1
$15,000 or more	4,869.8	3,424.9	442.4	723.5	50.2	52.9
Geographic region						
Northeast	5,142.9	3,271.2	785.8	663.3	60.3	95.0
North Central	4,727.9	3,279.9	547.7	650.4	53.9	34.5
South	4,726.0	3,256.2	604.8	492.7	35.9	48.2
West	5,694.2	3,972.0	703.2	699.5	28.1	42.5
Location of residence[5]						
Within SMSA	5,193.1	3,440.2	716.1	669.8	54.2	57.7
Large SMSA	5,307.0	3,485.6	765.5	671.8	64.5	63.7
Core counties	5,341.8	3,498.3	867.4	588.9	63.0	64.2
Fringe counties	5,233.1	3,458.9	549.6	847.5	67.5	62.6
Medium SMSA	5,150.4	3,439.9	646.0	694.4	46.5	54.9
Other SMSA	4,805.7	3,245.3	672.1	602.3	*28.5	38.5
Outside SMSA	4,459.2	3,269.5	465.6	451.7	19.7	45.5
Adjacent to SMSA	4,607.8	3,321.8	527.0	474.9	25.6	44.7
Not adjacent to SMSA	4,257.5	3,198.4	382.3	420.3	*11.7	46.6
Self-assessment of health						
Excellent or good	4,151.8	2,860.0	494.3	511.1	45.5	37.5
Fair or poor	10,925.7	7,138.9	1,739.5	1,321.2	43.0	170.6

[1] Includes other and unknown sources or places of care.
[2] Includes private doctor's office, doctor's clinic, or group practice.
[3] Includes hospital outpatient clinic or emergency room.
[4] Includes unknown family income.
[5] Grouped according to the April 1973 Office of Management and Budget metropolitan-nonmetropolitan designations.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 74. Physician visits, according to source or place of care, age, and color: United States, fiscal years 1964 and 1967 and selected calendar years 1970–76

(Data are based on household interviews of samples of the civilian noninstitutionalized population)

Age, color, and year	Visits per 1,000 population	Source or place of care					
		All sources or places of care [1]	Doctor's office [2]	Hospital outpatient department [1]	Telephone	Company or industry clinic	Home
TOTAL [4]		Percent distribution					
Fiscal year 1964	4,544.5	100.0	69.8	11.9	10.6	0.6	5.4
Fiscal year 1967	4,320.4	100.0	71.8	9.3	11.3	0.8	3.3
1970	4,638.3	100.0	69.4	10.6	12.2	1.0	2.0
1973	5,009.8	100.0	69.1	10.7	12.7	0.8	1.4
1974	4,945.1	100.0	68 8	11.9	12.3	0.8	1.1
1975	5,051.5	100.0	68 0	12.9	12.5	0.9	0.8
1976	4,944.0	100.0	67.9	13.1	12.0	0.9	1.4
AGE							
Under 15 years							
Fiscal year 1964	3,754.9	100.0	61.4	13.6	19 1	*	4.6
Fiscal year 1967	3,725.2	100 0	62.8	10.8	20 1	*	2.5
1970	3,985.2	100.0	62.1	12.2	18.5	*	0.7
1973	4,328.3	100.0	61.2	12.0	19.3	*	1.6
1974	4,249.2	100.0	61 6	12.0	19.5	*	0.8
1975	4,414.6	100.0	61.5	14.3	18.6	*	0.5
1976	4,203.6	100.0	64 0	13.1	17.8	*	0.6
15-24 years							
Fiscal year 1964	4,286.1	100.0	71.7	15.2	8.1	*	2.1
Fiscal year 1967	4,001.7	100.0	71.7	10.1	9.6	0 9	1.3
1970	4,238.6	100 0	69.4	11.3	9.6	1.5	*
1973	4,510.6	100 0	66.6	12.4	10.5	1.4	0.8
1974	4,282.3	100.0	64.8	15.7	9.5	0.7	*
1975	4,426.6	100.0	63.8	15.0	11.7	1.2	*
1976	4,082.4	100.0	65.4	15.1	9 5	0.9	0.8
25-44 years							
Fiscal year 1964	4,520.6	100.0	74.6	11.9	8.4	1.0	2.5
Fiscal year 1967	4,362.9	100.0	76.1	9.8	8.3	1.7	1.4
1970	4,585.4	100.0	72.2	9.9	11.2	1.5	1.1
1973	5,143.0	100.0	70.7	10.0	12.3	1.3	0.5
1974	4,975.6	100.0	69.1	12.2	12.0	1.6	0.6
1975	5,056.3	100.0	67 8	13.3	12.2	1.9	*
1976	4,890 4	100.0	69.2	12.0	11 8	1.7	0.4

45-64 years							
Fiscal year 1964	5,038.2	100.0	76.8	10.0	6.1	1.0	4.5
Fiscal year 1967	4,659.3	100.0	77.1	8.4	7.2	1.2	3.4
1970	5,206.0	100.0	72.7	10.7	9.3	1.4	2.0
1973	5,454.5	100.0	73.7	10.1	9.9	0.9	0.8
1974	5,517.6	100.0	74.1	10.7	9.2	1.0	0.9
1975	5,629.9	100.0	72.6	12.1	9.7	0.9	0.7
1976	5,729.9	100.0	68.5	15.0	9.9	1.4	1.5
65 years and over							
Fiscal year 1964	6,657.3	100.0	64.2	8.5	8.2	*	17.3
Fiscal year 1967	6,002.6	100.0	73.8	6.0	7.8	*	10.5
1970	6,269.0	100.0	72.7	7.8	9.6	*	7.9
1973	6,542.4	100.0	75.1	8.4	9.4	*	4.4
1974	6,730.8	100.0	75.6	8.7	9.2	*	4.2
1975	6,607.7	100.0	76.2	9.0	8.5	*	2.9
1976	6,853.8	100.0	72.9	9.5	9.9	*	4.8
COLOR							
White							
Fiscal year 1964	4,706.2	100.0	71.0	10.0	11.2	0.6	5.5
Fiscal year 1967	4,485.7	100.0	72.9	7.7	12.0	0.8	3.4
1970	4,751.7	100.0	70.5	9.2	12.9	1.0	2.1
1973	5,084.4	100.0	70.2	9.0	13.6	0.8	1.5
1974	5,027.7	100.0	69.5	10.6	13.0	0.8	1.2
1975	5,107.3	100.0	69.0	11.7	13.3	0.8	0.8
1976	5,000.2	100.0	69.1	11.3	12.8	0.9	1.4
All other							
Fiscal year 1964	3,329.8	100.0	57.0	31.8	4.1	*	4.4
Fiscal year 1967	3,111.4	100.0	60.3	25.8	4.0	*	2.2
1970	3,836.0	100.0	59.9	23.3	5.4	1.6	1.1
1973	4,493.9	100.0	60.1	23.4	5.9	1.2	0.9
1974	4,384.4	100.0	62.8	22.0	6.3	0.5	0.6
1975	4,678.7	100.0	60.6	22.0	6.9	1.0	0.4
1976	4,574.2	100.0	59.0	25.7	5.8	1.2	1.1

[1] Includes other and unknown sources or places of care.
[2] Includes private doctor's office, doctor's clinic, or group practice.
[3] Includes hospital outpatient clinic or emergency room.
[4] Includes all ages and both color groups.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 75. Physician visits, according to source or place of care, age, family income, and color: United States, average annual 1975–76

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Age, family income, and color	Visits per 1,000 population	Source or place of care		
		Doctor's office[1]	Hospital outpatient department[2]	Telephone
		Percent of visits		
UNDER 18 YEARS				
Family income				
Less than $5,000	4,324.1	55.8	23.0	11.1
$5,000–$9,999	3,701.9	57.4	20.7	13.3
$10,000–$14,999	4,096.0	65.1	12.5	18.3
$15,000 or more	4,448.8	67.1	9 3	20.0
Color				
White	4,289.1	65.3	11.9	18.2
All other	3,253.5	50.9	29.1	8.5
18–24 YEARS				
Family income				
Less than $5,000	5,151.0	51.3	18.0	9.6
$5,000–$9,999	5,209.0	61.9	18.5	10.6
$10,000–$14,999	4,721.8	70.6	10.2	12.2
$15,000 or more	4,209.5	70.6	10.2	11.9
Color				
White	4,721.2	65.1	12.6	11.6
All other	4,579.9	54.9	26.7	6.9
25–44 YEARS				
Family income				
Less than $5,000	6,304.2	57.9	23.9	9.9
$5,000–$9,999	4,884.1	67.3	15.6	9.3
$10,000–$14,999	4,838.9	69.1	12.9	11.9
$15,000 or more	4,943.4	71.1	8.2	14.2
Color				
White	4,911.1	69.5	11.4	12.8
All other	5,401.5	62.2	20.3	6.7
45–64 YEARS				
Family income				
Less than $5,000	7,550.9	65.5	18 0	8.7
$5,000–$9,999	5,760.6	71.6	14 2	8.7
$10,000–$14,999	5,462.3	68.9	15.7	9.4
$15,000 or more	5,462 7	72.4	10 0	11.5
Color				
White	5,645.2	71.0	12.4	10.4
All other	5,983.6	66.4	22 5	4.3
65 YEARS AND OVER				
Family income				
Less than $5,000	6,805.9	74.9	9 8	8.5
$5,000–$9,999	7,117.2	75.1	9.1	8.7
$10,000–$14,999	6,647.2	75.9	11.1	10.0
$15,000 or more	6,294.0	74.4	6.4	10 5
Color				
White	6,755.6	74.9	8 4	9.9
All other	6,501.4	70.5	18.7	*3.0

[1] Includes private doctor's office, doctor's clinic, or group practice

[2] Includes hospital outpatient clinic or emergency room.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics. Data from the Health Interview Survey.

Table 76. Private health insurance coverage status of persons under 65 years of age, according to age, selected characteristics, and type of coverage: United States, 1975

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Selected characteristic and type of coverage	Age				
	All ages under 65 years	Under 17 years	17–64 years		
			Total	17–44 years	45-64 years
Limitation of activity	Percent of persons with limitation				
Private coverage	9.3	3.4	11.9	7.6	19.7
Prepaid group practice	10.0	3.8	13.0	8.4	21.4
Fee for service	9.2	3.4	11.9	7.6	19.6
No private coverage	15.7	4.5	23.0	14.4	44.0
Physician visits	Number of visits per 1,000 population				
Private coverage	4,848.1	4,231.5	5,126.9	4,966.0	5,418.0
Prepaid group practice	5,640.4	4,696.0	6,101.8	5,850.1	6,564.0
Fee for service	4,813.1	4,209.9	5,084.9	4,927.8	5,369.2
No private coverage	5,002.7	4,340.2	5,432.1	4,878.0	6,792.1
Hospital discharges	Number of discharges per 1,000 population				
Private coverage	124.3	67.8	149.9	---	---
Prepaid group practice	105.9	40.3	137.9	---	---
Fee for service	125.2	69.1	150.4	---	---
No private coverage	146.1	80.6	188.6	---	---
Hospital days	Number of days per 1,000 population				
Private coverage	778.5	299.5	995.1	749.4	1,439.8
Prepaid group practice	628.3	*202.4	836.3	586.6	1,294.9
Fee for service	785.1	304.0	1,001.9	756.5	1,446.0
No private coverage	1,085.7	470.0	1,484.8	1,248.6	2,064.5

NOTE: Prepaid group plan includes organizations defined as Health Maintenance Organizations (HMO) and other prepaid group practice plans not identified as HMO. Fee for service includes all other health insurance plans.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 77. Physician visits, according to source or place of care, age, and location of residence: United States, average annual 1975-76

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Age and location of residence	Visits per 1,000 population	Source or place of care			
		Doctor's office[1]	Hospital outpatient department[2]	Telephone	Home
		Percent of visits			
UNDER 18 YEARS					
Location of residence					
Within SMSA	4,354.9	62.2	15.0	17.4	0.5
Large SMSA	4,433.6	61.7	15.6	17.1	0.7
Core counties	4,263.9	60.3	19.4	14.4	*0.6
Fringe counties	4,758.3	64.2	9.2	21.7	*0.8
Medium SMSA	4,310.5	63 1	13.8	18.2	*0.3
Other SMSA	4,142.0	62 4	15.0	16.9	*0.7
Outside SMSA	3,487 1	67.4	11.5	15.2	*0.8
Adjacent to SMSA	3,534.0	68.6	11.5	15.1	*0.6
Not adjacent to SMSA	3,420.9	65.6	11.5	15.5	*1.2
18-24 YEARS					
Location of residence					
Within SMSA	4,790.4	62.0	15.0	11.9	*0.5
Large SMSA	4,909.8	61.8	17.3	11.4	*0.6
Core counties	5,063.6	62.6	17.6	10.5	*0.5
Fringe counties	4,544.7	59.8	16.7	13.5	*0.9
Medium SMSA	4,810.1	62.9	11.1	13.2	*0.3
Other SMSA	4,259.8	60.4	14.9	10.6	*0.8
Outside SMSA	4,448.0	68.9	12.9	8.3	*0.3
Adjacent to SMSA	4,893.5	69.3	14.0	7.9	*0.4
Not adjacent to SMSA	3,850.8	68.2	11.0	8.9	*0.2
25-44 YEARS					
Location of residence					
Within SMSA	5,204.8	67.3	13.2	12.5	0.3
Large SMSA	5,368.2	67.6	12.6	12.4	*0.3
Core counties	5,484.4	68.7	13.7	10.9	*0.2
Fringe counties	5,136 4	65.5	10.5	15.4	*0.5
Medium SMSA	5,086.0	66.2	13 9	12.5	*0.5
Other SMSA	4,746.6	68.1	14.0	13.0	*–
Outside SMSA	4,259.2	73.3	10.6	10.2	*0.1
Adjacent to SMSA	4,358.8	72.0	10.9	10.7	*0.1
Not adjacent to SMSA	4,118.6	75.3	10.2	9.4	*0.2

45-64 YEARS					
Location of residence					
Within SMSA	5,848.6	68.4	14.5	10.4	1.2
Large SMSA	5,975.8	67.0	15.6	10.3	1.2
Core counties	6,011.5	66.4	17.3	9.1	1.4
Fringe counties	5,897.9	68.4	11.7	12.9	*0.8
Medium SMSA	5,663.0	70.6	11.8	10.8	1.5
Other SMSA	5,717.4	70.3	16.3	9.8	*0.6
Outside SMSA	5,212.1	77.0	10.4	7.9	*0.9
Adjacent to SMSA	5,447.3	74.7	12.2	7.6	*1.0
Not adjacent to SMSA	4,904.3	80.3	7.7	8.3	*0.7
65 YEARS AND OVER					
Location of residence					
Within SMSA	7,003.4	72.2	10.2	10.2	4.2
Large SMSA	6,953.6	70.5	11.0	10.0	4.7
Core counties	6,996.4	69.3	12.8	9.2	4.4
Fringe counties	6,830.1	74.1	5.8	12.3	5.6
Medium SMSA	7,502.8	72.4	10.3	11.0	3.7
Other SMSA	6,047.9	79.8	6.3	8.6	2.9
Outside SMSA	6,141.3	80.2	7.0	7.0	3.2
Adjacent to SMSA	6,356.6	76.0	8.9	8.2	3.3
Not adjacent to SMSA	5,876.6	85.9	4.4	5.3	*3.1

[1] Includes private doctor's office, doctor's clinic, or group practice.
[2] Includes hospital outpatient clinic or emergency room.

NOTE: The locations of counties are grouped according to April 1973 Office of Management and Budget metropolitan-nonmetropolitan designations.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 78. Persons utilizing specific places of outpatient medical care during the year prior to interview, according to selected characteristics: United States, 1974

(Data are based on interviews of a sample of the civilian noninstitutionalized population)

Selected characteristic	All persons	Place of care							Persons not utilizing outpatient place of care
		Doctor's office[1] only	Doctor's office in combination with—			Hospital outpatient department[2] only	Free-standing clinic[3] only	Hospital outpatient department[2] and free-standing clinic[3]	
			Hospital outpatient department[2]	Free-standing clinic[3]	Hospital outpatient department[2] and free-standing clinic[3]				
	Percent distribution								
Total[4]	100.0	45.7	13.2	2.8	1.7	4.2	1.2	0.6	30.6
Sex									
Male	100.0	38.7	13.0	3.1	2.0	4.4	1.5	0.6	36.6
Female	100.0	52.3	13.5	2.5	1.4	4.0	0.8	0.6	25.0
Color									
White	100.0	47.8	13.5	2.7	1.5	3.3	1.0	0.4	29.8
All other	100.0	31.5	11.6	3.6	2.8	10.0	2.2	1.8	36.5
Age									
Under 17 years	100.0	44.9	14.4	2.1	1.2	5.1	1.0	0.7	30.7
17-44 years	100.0	43.2	13.8	3.7	2.7	3.9	1.6	0.8	30.4
45-64 years	100.0	46.9	11.5	3.0	1.2	3.7	1.1	0.3	32.4
65 years and over	100.0	55.8	11.2	0.8	0.5	3.4	*	*	27.8
Family income									
Less than $5,000	100.0	40.0	13.5	3.1	2.1	6.8	1.7	1.4	31.4
$5,000-$9,999	100.0	42.3	13.8	2.8	2.0	5.5	1.5	0.7	31.5
$10,000-$14,999	100.0	47.1	13.4	2.7	1.8	3.5	0.1	0.4	30.1
$15,000 or more	100.0	51.0	13.1	2.9	1.4	2.4	0.9	0.3	28.0
Geographic region									
Northeast	100.0	44.8	14.9	2.6	1.6	4.6	1.2	0.5	29.8
North Central	100.0	47.2	13.6	3.0	1.7	3.0	0.9	0.6	30.1
South	100.0	44.9	12.1	3.0	1.8	4.7	1.3	0.7	31.7
West	100.0	46.3	12.3	2.5	1.6	4.6	1.3	0.6	30.8
Place of residence									
SMSA	100.0	45.0	13.6	3.1	1.8	4.8	1.3	0.7	29.8
Central city	100.0	40.5	13.2	3.4	2.2	6.6	1.7	1.2	31.2
Outside central city	100.0	48.4	13.8	2.8	1.5	3.5	0.9	0.3	28.7
Outside SMSA	100.0	47.4	12.5	2.2	1.4	2.7	1.0	0.4	32.5
Self-assessment of health									
Excellent or good	100.0	45.9	12.2	2.8	1.5	3.9	1.2	0.5	31.9
Fair or poor	100.0	44.8	20.0	2.9	3.1	5.7	0.8	0.9	21.8

[1] Includes persons utilizing a private doctor's office, doctor's clinic, or group practice.
[2] Includes persons utilizing the hospital outpatient clinic or the emergency room.
[3] Includes persons utilizing the company or industry clinic, public health clinic, or the neighborhood health center.
[4] Includes unknown family income.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 79. Office visits to physicians, according to color, sex, and age of patient: United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Age of patient	Color								
	Total			White			All other		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Office visits per 1,000 population								
All ages	2,770.7	2,276.4	3,231.5	2,864.6	2,353.2	3,345.2	2,147.7	1,749.8	2,499.2
Under 1 year	5,865.9	5,950.9	5,776.8	6,117.2	6,234.7	5,993.6	4,651.9	4,565.0	4,741.3
1-4 years	2,440.7	2,576.4	2,299.1	2,581.4	2,728.6	2,426.9	1,775.1	1,845.1	1,703.9
5-9 years	1,685.7	1,754.6	1,614.0	1,841.5	1,895.0	1,785.5	899.7	1,033.3	765.1
10-14 years	1,351.9	1,390.1	1,312.2	1,457.3	1,514.9	1,397.1	796.2	720.8	872.3
15-19 years	1,975.1	1,578.4	2,368.7	2,090.6	1,705.5	2,475.4	1,322.5	841.6	1,780.0
20-24 years	2,575.4	1,590.5	3,488.5	2,634.4	1,613.3	3,601.6	2,204.1	1,434.8	2,827.1
25-29 years	2,881.8	1,786.2	3,912.5	2,872.1	1,774.2	3,930.8	2,949.6	1,879.9	3,795.7
30-34 years	2,764.7	1,948.5	3,530.9	2,771.3	1,942.4	3,568.2	2,719.1	1,995.5	3,293.2
35-39 years	2,749.7	2,161.6	3,280.7	2,781.5	2,144.7	3,373.6	2,541.7	2,286.3	2,731.4
40-44 years	2,744.1	2,112.2	3,342.6	2,754.6	2,089.6	3,394.5	2,664.6	2,297.0	2,972.8
45-49 years	3,080.4	2,465.6	3,656.4	3,116.4	2,466.7	3,732.5	2,802.6	2,456.7	3,096.8
50-54 years	3,217.4	2,520.5	3,858.9	3,244.3	2,540.4	3,897.5	2,987.8	2,343.8	3,540.9
55-59 years	3,505.7	3,037.6	3,939.4	3,543.2	3,056.7	3,994.6	3,164.3	2,862.2	3,440.0
60-64 years	3,809.9	3,449.5	4,117.2	3,852.6	3,467.8	4,183.7	3,390.3	3,259.8	3,492.3
65-69 years	4,274.9	3,876.6	4,595.1	4,410.3	3,997.9	4,741.9	3,007.2	2,739.9	3,221.7
70-74 years	4,586.1	4,160.1	4,893.0	4,697.2	4,331.2	4,958.5	3,509.5	2,590.5	4,231.6
75 years and over	4,259.9	4,072.0	4,372.0	4,402.5	4,261.9	4,485.2	2,770.3	2,267.3	3,115.9

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 80. Office visits to physicians, according to age of patient, sex, most common principal diagnosis, and ICDA code: United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Sex, most common principal diagnosis, and ICDA code[1]	Age of patient					
	All ages	Under 15 years	15-24 years	25-44 years	45-64 years	65 years and over
	Office visits per 1,000 population					
Both sexes[2]	2,770.7	1,982.1	2,259.0	2,794.2	3,377.2	4,356.6
Medical or special exams Y00	205.2	360 2	196.7	175.5	125.9	71.2
Acute URI,[3] except influenza 460-465	175.6	326 6	138.0	131.3	121.7	88.9
Medical and surgical aftercare Y10	135 1	77.3	99.6	155.4	185.1	191.6
Hypertension 400,401,403	110.9	1 9	8.2	54.1	269.9	385.2
Heart disease 390-398,402,404,410-414,420-429	103.5	*5 3	*7.2	26.4	188.7	536.9
Ischemic heart disease 410-414	75.1	1 0	1.5	13.1	145.3	400.9
Prenatal care Y06	101.3	*5.6	270.4	195.0	*1.6	...
Neuroses and nonpsychotic disorders 300-309	100.1	24 5	69.6	182.8	124.6	88.4
Arthritis and rheumatism 710-718	86 7	5.8	19.6	56.6	169.1	315.5
Infections and inflammations of skin 680-698	85.1	91.9	79.0	78.9	85.5	93 9
Diseases of the ear and mastoid process 380-389	84.2	169 1	47.4	49.3	61.1	74.3
Bronchitis, emphysema, asthma 490-493	76.6	83.9	33.8	51.4	109.4	131.4
Sprains and strains 840-848	68.6	17.7	77.2	104.7	89.1	49.0
Eye diseases, except refractive 360-369,371-379	68.3	34.0	27.2	35.1	92.7	259.5
Diabetes mellitus 250	46.2	*3.9	*6.9	18 8	92.2	196.2
Refractive errors 370	41.3	23.1	42 7	42 3	60.2	42.7
Hay fever 507	40.8	47.1	36.4	49.9	35.0	22.3
Obesity 277	38.0	5.8	37.8	70.6	48.3	17.0
Malignant neoplasms 140-209	35.0	*3.3	*5.6	14.4	70.1	146.1
Diseases of sebaceous glands (acne) 706	34.3	13.1	96.3	35.6	13.7	*12.6
Fracture 800-829	33.9	33.3	31.9	28.0	36.9	47.0
Lacerations 870-907	33.9	40.9	41.7	31.7	24.6	25.9
Synovitis, bursitis, tenosynovitis 731	28.4	*5.1	13.1	32.3	56.5	47.0
Observation without need for medical care 793	26.7	23.3	27.1	34.0	25.2	19.4
Influenza 470-474	24.7	17.7	19.0	31.0	31.1	24.1
Cystitis 595	23.3	*4.9	25.1	28.0	32.6	35.6
Disorders of menstruation 626	18.5	*1.9	32.8	33.4	16.1	*1.9
Menopausal symptoms 627	18.3	..	*1.6	14.2	63.6	*12.8
Diseases of central nervous system 320-349	16.6	*4.3	12 4	19.6	24.7	31.1
Nervousness, debility 790	14.7	*1.3	8.1	20.1	27.0	21.7
Diseases of breast 610-611	13.7	*1.5	12.4	25.1	17.6	*10.8
Acute bronchitis, bronchiolitis 466	12.8	15.8	*7.6	9.1	15.7	17.6
Ulcer 531-534	12.7	*1.2	*7.2	17.4	21.6	21.6
Pneumonia 480-486	12.4	18.6	8.3	8.4	12.3	15.1
Male[2]	2,276.4	2,057.5	1,584.0	1,976.5	2,823.7	4,022.0
Acute URI,[3] except influenza 460-465	166.0	326.5	121.5	112.2	97.0	88.7
Medical or special exams Y00	166.0	354.0	134.7	91.5	80.9	73.0
Medical and surgical aftercare Y10	127.8	91.5	109.7	125.6	162.1	203.9
Heart disease 390-398,402,404,410-414,420-429	109.6	5.0	7.6	30.5	238.4	576.0
Ischemic heart disease 410-414	81.9	*0.9	*1.4	17.6	194.5	425.2

Hypertension	400,401,403	84.0	1.6	11.4	54.4	223.7	251.4
Diseases of ear and mastoid process	380-389	82.3	174.3	44.5	39.9	54.9	68.9
Infections and inflammations of skin	680-698	78.9	99.0	63.1	67.5	82.0	77.4
Sprains and strains	840-848	77.3	19.1	93.8	123.7	93.2	48.6
Neuroses and other nonpsychotic disorders	300-309	76.8	31.3	55.1	138.0	92.3	49.6
Bronchitis, emphysema, asthma	490-493	75.8	95.8	25.0	39.3	97.6	178.6
Arthritis and rheumatism	710-718	60.6	*6.0	17.1	48.6	128.4	197.3
Eye diseases, except refractive	360-369,371-379	58.8	33.5	26.0	32.8	85.3	220.0
Lacerations	870-907	49.1	56.8	65.7	45.8	35.3	*31.2
Fracture	800-829	40.1	41.4	49.7	39.7	34.0	*31.0
Diabetes mellitus	250	38.3	*3.0	*6.6	18.4	79.7	174.9
Hay fever	507	36.9	55.4	31.9	39.1	21.7	*20.8
Malignant neoplasms	140-209	33.8	*2.8	*3.9	*10.7	61.1	195.1
Refractive errors	370	32.5	20.1	31.3	34.9	47.4	*31.1
Influenza	470-474	27.1	19.0	22.7	32.0	33.9	*31.9
Synovitis, bursitis, tenosynovitis	731	26.9	*7.0	*15.1	33.9	46.3	47.2
Diseases of sebaceous glands (acne)	706	26.4	*9.9	77.6	19.8	*14.0	*14.6
Female[2]		3,231.5	1,903.7	2,907.4	3,557.3	3,881.5	4,590.8
Medical or special exams	Y00	241.7	366.5	256.4	253.9	166.9	69.9
Prenatal care	Y06	195.4	*9.8	530.1	376.9	*3.1	...
Acute URI,[3] except influenza	460-465	184.5	326.8	153.9	149.2	144.2	89.1
Medical and surgical aftercare	Y10	142.0	62.5	89.8	183.2	206.1	183.0
Hypertension	400,401,403	136.1	2.2	5.1	53.9	312.0	478.8
Neuroses and nonpsychotic disorders	300-309	121.8	17.4	83.5	224.7	153.9	115.6
Arthritis and rheumatism	710-718	111.1	*5.6	21.9	64.2	206.2	398.1
Heart disease	390-398,402,404,410-414,420-429	97.8	5.7	6.8	22.6	143.4	509.6
Ischemic heart disease	410-414	68.7	*1.2	*1.5	9.0	100.5	383.8
Infections and inflammations of skin	680-698	90.9	84.4	94.2	89.6	88.6	105.5
Diseases of ear and mastoid process	380-389	86.0	163.7	50.3	58.1	66.7	78.0
Bronchitis, emphysema, asthma	490-493	77.3	71.6	42.3	62.8	120.2	98.4
Eye diseases, except refractive	360-369,371-379	77.2	34.5	28.4	37.3	99.5	287.2
Sprains and strains	840-848	60.6	16.2	61.2	87.0	85.3	49.2
Obesity	277	58.6	*6.6	62.2	112.6	71.2	*19.9
Diabetes mellitus	250	53.6	*4.8	*7.2	19.1	103.6	211.1
Refractive errors	370	49.5	26.3	53.7	49.3	71.8	50.9
Hay fever	507	44.4	38.4	40.8	60.1	47.1	*23.3
Diseases of sebaceous glands (acne)	706	41.7	16.4	114.3	50.3	13.5	*11.3
Cystitis	595	37.4	*8.7	44.2	45.2	50.6	44.9
Malignant neoplasms	140-209	36.1	*3.9	*7.2	17.9	78.3	111.8
Disorders of menstruation	626	35.8	*3.9	64.3	64.6	30.7	3.3
Menopausal symptoms	627	35.4	...	*3.2	27.5	121.6	*21.7
Observation without need for further medical care	793	35.3	25.0	37.7	50.7	33.1	*23.2
Synovitis, bursitis, tenosynovitis	731	29.8	*3.2	*11.1	30.8	65.8	46.8
Fracture	800-829	28.1	24.9	*14.8	17.2	39.6	58.3
Diseases of breast	610-611	25.6	*2.2	22.9	48.3	32.6	*16.1

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] Both sexes, male, and female include office visits to physicians for the most common and all other principal diagnoses.

[3] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 81 Office visits to physicians, according to physician specialty, age of patient, most common principal diagnosis, and ICDA code: United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Age of patient, most common principal diagnosis, and ICDA code[1]	Office visits per 1,000 population	Physician specialty							
		All specialties	General and family practice	Internal medicine	Pediatrics	Obstetrics and gynecology	Other medical	Other surgical	Other
		Percent distribution							
All ages[2]	2,770.7	100 0	39.8	11.3	9.3	8.4	6.1	20.8	4.3
Acute URI,[3] except influenza 460-465	175.6	100.0	57.6	6.9	24 6	1 1	0 9	7.1	1.8
Hypertension 400,401,403	110.9	100.0	58.9	27.7	*0.2	1.6	4.3	5.9	1 4
Heart disease 390-398,402,404,410-414,420-429	103.5	100.0	46 1	36.2	*0.5	*0.2	12.5	2.5	2 0
Ischemic heart disease 410-414	75.1	100.0	47.6	37.4	*0.0	*0 1	10.8	2.3	*1.7
Prenatal care Y06	101.3	100.0	25.1	*0 3	*0.6	72.9	*0 0	*0.9	*0.3
Neuroses and nonpsychotic disorders 300-309	100.1	100.0	29.7	10 6	2 2	*1.1	*1.4	3.2	51.8
Arthritis and rheumatism 710-718	86.7	100.0	55.6	23 6	*1 0	*0.6	2.2	13 9	3.1
Infections and inflammations of skin 680-698	85.1	100.0	42.9	6.6	12.7	*1.2	26.2	9.7	*0.7
Diseases of ear and mastoid process 380-389	84.2	100.0	34.5	4 3	28 7	*0.5	*1.1	29.8	*1.2
Bronchitis, emphysema, asthma 490-493	76.6	100.0	46.8	14 8	17.8	*0.4	16 0	2.7	*1.5
Sprains and strains 840-848	68.6	100.0	51.7	7 4	*2.0	*0.8	*0 7	30.1	7.3
Eye diseases, except refractive 360-369,371-379	68 3	100 0	8.2	2.1	3 0	*0 2	*1.0	84.6	*1.0
Diabetes mellitus 250	46 2	100.0	59.5	30.2	*1 1	*0.6	*2.9	5 0	*0.9
Refractive errors 370	41.3	100.0	*0.7	*2 5	*0.1	*–	*0.1	96.7	*–
Hay fever 507	40.8	100.0	26.3	9.9	17.8	*0 3	34.3	11 1	*0.3
Obesity 277	38 0	100 0	68.6	12.8	*1.9	4.3	*0.5	7 3	4.6
Malignant neoplasms 140-209	35.0	100.0	18.6	28.3	*0 8	*3 6	14 8	33.4	*0.6
Diseases of sebaceous glands (acne) 706	34.3	100.0	15.6	*1.4	*1.9	*0.9	67.9	12 3	*–
Fracture 800-829	33 9	100.0	30.1	*3.3	*4 2	*0.4	*0.4	60.2	*1.3
Lacerations 870-907	33 9	100.0	55.7	*3.8	9.5	*0 7	*0.2	24.2	5.8
Synovitis, bursitis, tenosynovitis 731	28 4	100.0	44.8	11.2	*1 3	*0.3	*2.0	37.5	*2.9
Influenza 470-474	24.7	100 0	78.5	7.3	8.8	*1.0	*1.0	*2.2	*1.4
Cystitis 595	23.3	100.0	55.2	6.5	*1.9	7.1	*0.4	28.3	*0.6
Under 15 years[2]	1,982.1	100.0	31.6	1 7	47 1	1.0	2.9	13.8	2.0
Medical or special exams Y00	360.2	100 0	23.7	*0.7	70.1	0.7	*0.1	3 5	*1.3
Acute URI,[3] except influenza 460-465	326.6	100.0	42.5	2 0	49.8	0.6	*0.0	3.3	1.8
Diseases of ear and mastoid process 380-389	169.1	100.0	28.5	*0.7	54.8	0.3	*0.6	14.2	*1.0
Infective and parasitic diseases 000-136	151.8	100.0	36.1	*2.3	48.7	0.8	7.3	*3.4	*1.3
Infections and inflammations of skin 680-698	91.9	100 0	39.2	*1.8	43.3	1.4	10.9	*2.8	*0.6
Bronchitis, emphysema, asthma 490-493	83.9	100.0	29.2	*2.2	58 1	0.5	7.7	*1.3	*1.1
Hay fever 507	47 1	100.0	19.5	*4.4	48.8	0 2	21.7	*5.3	*0.2
15-24 years[2]	2,259.0	100 0	42.2	6.0	3.6	18.0	7 8	18.0	4.4
Prenatal care Y06	270 4	100 0	30.4	*0.4	*0.4	67.3	*0.0	*1.1	*0 4
Medical or special exams Y00	196.7	100.0	49.0	6.2	7.4	24.2	*0.3	10.9	*2.0
Acute URI,[3] except influenza 460-465	138.0	100.0	73.3	8.3	6.3	*2.0	*1.0	8.1	*0.9

Disease of sebaceous glands (acne)	706	96.3	100.0	11.6	*0.5	*1.5	*1.1	81.6	*3.7	*–
Infections and inflammations of skin	680-698	79.0	100.0	47.1	*6.7	*3.4	*0.8	28.1	13.4	*0.5
Sprains and strains	840-848	77.2	100.0	59.2	*4.5	*1.5	*1.0	*0.4	27.5	*5.8
Neuroses and nonpsychotic disorders	300-309	69.6	100.0	29.7	*6.1	*3.0	*1.3	*0.3	*2.8	56.9
25-44 years[2]		2,794.2	100.0	38.4	9.5	0.4	16.8	5.6	21.7	7.5
Prenatal care	Y06	195.0	100.0	19.0	*0.1	*0.1	80.0	*–	*0.6	*0.2
Neuroses and nonpsychotic disorders	300-309	182.8	100.0	21.6	7.5	*0.1	*1.7	*1.3	*2.3	65.6
Medical or special exams	Y00	175.5	100.0	36.1	9.3	*0.6	40.2	*1.4	11.0	*1.4
Acute URI,[3] except influenza	460-465	131.3	100.0	71.3	11.1	*0.9	*1.6	*1.4	11.9	*1.7
Sprains and strains	840-848	104.7	100.0	45.8	6.6	*0.7	*0.8	*0.7	37.4	7.9
Infections and inflammations of skin	680-698	78.9	100.0	47.1	7.7	*0.4	*1.7	30.8	11.9	*0.5
Obesity	277	70.6	100.0	68.7	10.8	*0.3	*5.6	*0.3	8.1	*6.2
Arthritis and rheumatism	710-718	56.6	100.0	56.0	23.0	*–	*0.5	*2.5	14.8	*3.2
Hypertension	400,401,403	54.1	100.0	52.8	31.7	*0.2	*3.4	*4.7	*5.7	*1.4
Bronchitis, emphysema, asthma	490-493	51.4	100.0	54.9	16.6	*2.2	*0.6	19.0	*3.5	*3.3
Hay fever	507	49.9	100.0	30.1	*10.4	*4.5	*0.5	40.5	14.1	*–
Diseases of ear and mastoid process	380-389	49.3	100.0	45.6	*6.7	*0.5	*0.7	*0.9	44.7	*0.9
45–64 years[2]		3,377.2	100.0	43.1	17.1	0.3	3.9	6.9	24.7	4.1
Hypertension	400,401,403	269.9	100.0	57.9	29.1	*0.1	*1.3	4.4	6.0	*1.2
Arthritis and rheumatism	710-718	169.1	100.0	57.2	22.3	*0.7	*0.4	*1.7	15.6	*2.0
Ischemic heart disease	410-414	145.3	100.0	44.0	39.4	*0.1	*0.2	12.4	*3.1	*0.8
Medical or special exams	Y00	125.9	100.0	40.2	16.5	*0.2	24.4	*1.3	16.0	*1.4
Neuroses and nonpsychotic disorders	300-309	124.6	100.0	39.4	14.9	*0.0	*0.3	*2.0	*4.5	38.9
Acute URI,[3] except influenza	460-465	121.7	100.0	70.1	12.4	*1.0	*0.9	*2.6	10.0	*3.0
Bronchitis, emphysema, asthma	490-493	109.4	100.0	54.7	21.7	*0.9	*0.3	18.1	*2.9	*1.5
Eye diseases, except refractive	360-369,371-379	92.7	100.0	*6.4	*2.6	*0.2	*–	*1.2	89.2	*0.4
Diabetes mellitus	250	92.2	100.0	57.0	32.9	*0.1	*0.1	*3.4	*5.9	*0.6
Sprains and strains	840-848	89.1	100.0	54.2	9.7	*0.4	*0.7	*1.0	26.0	8.0
Infections and inflammations of skin	680-698	85.5	100.0	38.8	8.8	*0.5	*0.8	38.4	11.2	*1.5
Malignant neoplasms	140-209	70.1	100.0	17.1	31.4	*–	2.9	14.6	33.1	*0.9
Menopausal symptoms	627	63.6	100.0	56.3	11.6	*–	24.1	*0.3	*4.0	*3.7
Diseases of ear and mastoid process	380-389	61.1	100.0	35.9	*9.2	*–	0.6	*3.3	50.8	*0.3
Synovitis, bursitis, tenosynovitis	731	56.5	100.0	45.9	13.2	*–	*0.5	*2.1	36.8	*1.6
65 years and over[2]		4,356.6	100.0	44.0	20.8	*0.2	1.4	7.2	24.1	2.3
Ischemic heart disease	410-414	400.9	100.0	49.5	36.3	*0.0	*–	10.0	*1.7	*2.4
Hypertension	400,401,403	385.2	100.0	62.6	24.1	*0.3	*1.3	4.1	6.0	*1.6
Arthritis and rheumatism	710-718	315.5	100.0	54.5	25.7	*0.4	*0.4	*2.9	11.6	4.4
Eye diseases, except refractive	360-369,371-379	259.5	100.0	*4.1	*2.0	*–	*0.1	*0.6	92.7	*0.5
Diabetes mellitus	250	196.2	100.0	64.0	26.9	*0.4	*0.4	*2.4	*4.7	*1.3
Malignant neoplasms	140-209	146.1	100.0	20.8	25.4	*–	*1.8	16.3	35.6	*0.0
Bronchitis, emphysema, asthma	490-493	131.4	100.0	52.0	25.2	*0.5	*0.1	18.3	*3.1	*0.8

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] All ages and age groups include office visits to physicians for the most common and all other principal diagnoses.

[3] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 82. Office visits to physicians, according to prior visit status, seriousness of problem, age of patient, most common principal diagnosis, and ICDA code: United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Age of patient, most common principal diagnosis, and ICDA code[1]	Office visits per 1,000 population	Prior visit status			Seriousness of problem		
		Patient never seen before	Patient seen before		Serious or very serious	Slightly serious	Not serious
			Current problem	Another problem			
		Percent of visits					
All ages[2]	2,770.7	14.6	62.2	23.2	19.2	32.3	48.5
Acute URI,[3] except influenza 460-465	175.6	14.2	39.3	46.5	7.9	41.1	51.0
Hypertension 400,401,403	110 9	4.9	89.3	5.9	22.3	46.3	31.4
Heart disease 390-398,402,404,410-414,420-429	103 5	5.3	86.4	8 3	50.6	33.4	16.0
Ischemic heart disease 410-414	75.1	4.9	88.0	7 1	52.2	32.8	14.9
Prenatal care Y06	101 3	8.2	84.4	7 5	3.7	7.1	89 2
Neuroses and nonpsychotic disorders 300-309	100.1	10.6	77.3	12.1	41.6	30.6	27.8
Arthritis and rheumatism 710-718	86.7	10.0	72.5	17.5	21.6	42.3	36.1
Infections and inflammations of skin 680-698	85.1	19.0	47.1	33.9	11 5	34.3	54.3
Diseases of ear and mastoid process 380-389	84.2	18.8	48.7	32.5	15.0	45.8	39.3
Bronchitis, emphysema, asthma 490-493	76.6	9.3	71.3	19.4	26.2	47.8	26.0
Sprains and strains 840-848	68.6	19.7	52.0	28.3	12.9	44.2	42.9
Eye diseases, except refractive 360-369,371-379	68.3	21.9	62.8	15.3	29.4	35.4	35.2
Diabetes mellitus 250	46 2	4.0	88.4	7 5	41.4	34.4	24 3
Refractive errors 370	41 3	38.8	51.4	9.8	*2.5	9.5	88.0
Hay fever 507	40.8	8.2	83.3	8.6	6.2	36.8	57.0
Obesity 277	38.0	17 6	73.1	9.3	9.4	30.0	60.6
Malignant neoplasms 140-209	35.0	9 3	81.0	9.7	75.4	13.6	11.0
Diseases of sebaceous glands (acne) 706	34.3	18.2	65.6	16.1	6.7	27.2	66.2
Fracture 800-829	33.9	16.9	64.9	18.2	28.3	44.7	27.0
Lacerations 870-907	33.9	26.0	37 1	36.8	17.0	30.8	52.2
Synovitis, bursitis, tenosynovitis 731	28.4	17.0	49 1	33.9	10.5	41.9	47.6
Influenza 470-474	24.7	11.4	26.2	62.3	10.2	56.6	33.2
Cystitis 595	23 3	13.0	52.1	34.9	12.6	55.9	31.5
Under 15 years[2]	1,982.1	14.5	51.4	34.1	11.3	31.6	57.1
Medical or special exams Y00	360.2	10.9	65.0	24.1	0.8	2.8	96.5
Acute URI,[3] except influenza 460-465	326.6	12.5	42.0	45.5	8.8	43.8	47.4
Diseases of ear and mastoid process 380-389	169.1	12.7	53.7	33.6	14.7	52.1	33.2
Infective and parasitic diseases 000-136	151.8	18.3	30.7	51.1	11.5	39.0	49.4
Infections and inflammations of skin 680-698	91.9	17.5	41.0	41.5	10.5	31.9	57.6
Bronchitis, emphysema, asthma 490-493	83.9	6.9	66.3	26.8	16.5	55.0	28.5
Hay fever 507	47.1	*5.5	*85.6	8.9	*6.8	34.7	58.5
15-24 years[2]	2,259.0	20.9	53.6	25.6	12.2	27.8	59.9
Prenatal care Y06	270.4	9.6	83.2	7.2	3.7	6.7	89.6
Medical or special exams Y00	196.7	31.7	39.6	28.7	*1.6	*3 3	95.1
Acute URI,[3] except influenza 460-465	138.0	20.3	32.5	47.1	6.2	34.4	59.4

Diseases of sebaceous glands (acne) ---- 706	96.3	16.9	10.3	72.8	*6.5	28.7	64.8
Infections and inflammations of skin ---- 680-698	79.0	21.5	33.0	45.4	*9.5	29.4	61.1
Sprains and strains ---- 840-848	77.2	22.8	35.2	42.0	*8.9	43.4	47.8
Neuroses and nonpsychotic disorders ---- 300-309	69.6	15.0	13.2	71.8	41.7	35.2	23.1
25-44 years[2] ----	2,794.2	17.7	59.9	22.4	17.4	30.7	51.9
Prenatal care ---- Y06	195.0	6.6	86.3	7.1	3.5	7.5	89.0
Neuroses and nonpsychotic disorders ---- 300-309	182.8	9.5	81.6	8.9	50.1	28.1	21.7
Medical or special exams ---- Y00	175.5	23.1	54.2	22.7	1.0	3.9	95.1
Acute URI,[3] except influenza ---- 460-465	131.3	17.5	36.0	46.6	6.0	39.5	54.5
Sprains and strains ---- 840-848	104.7	22.1	56.3	21.6	13.3	47.6	39.1
Infections and inflammations of skin ---- 680-698	78.9	23.4	47.5	29.1	10.0	33.0	57.1
Obesity ---- 277	70.6	19.0	71.1	9.9	9.4	29.2	61.4
Arthritis and rheumatism ---- 710-718	56.6	17.2	59.0	23.8	25.3	35.7	39.0
Hypertension ---- 400,401,403	54.1	*9.9	*82.9	7.2	25.7	44.3	30.0
Bronchitis, emphysema, asthma ---- 490-493	51.4	17.5	61.4	21.1	19.7	51.4	28.9
Hay fever ---- 507	49.9	*9.9	*80.4	9.7	*5.7	40.3	54.0
Diseases of ear and mastoid process ---- 380-389	49.3	30.5	35.9	33.6	16.5	41.3	42.3
45-64 years[2] ----	3,377.2	11.8	68.9	19.2	24.2	35.3	40.4
Hypertension ---- 400,401,403	269.9	4.6	90.3	5.1	21.8	48.3	29.8
Arthritis and rheumatism ---- 710-718	169.1	10.9	71.5	17.6	21.3	44.5	34.2
Ischemic heart disease ---- 410-414	145.3	7.2	87.2	5.6	55.0	29.7	15.3
Medical or special exams ---- Y00	125.9	14.5	65.1	20.4	*2.2	6.0	91.8
Neuroses and nonpsychotic disorders ---- 300-309	124.6	9.7	75.5	14.7	33.4	31.9	34.7
Acute URI,[3] except influenza ---- 460-465	121.7	10.9	40.3	48.7	9.3	40.7	50.0
Bronchitis, emphysema, asthma ---- 490-493	109.4	9.1	76.5	14.4	31.2	45.0	23.7
Eye diseases, except refractive ---- 360-369,371-379	92.7	17.8	67.1	15.2	33.5	36.3	30.2
Diabetes mellitus ---- 250	92.2	*3.5	*89.0	7.5	45.5	34.4	20.1
Sprains and strains ---- 840-848	89.1	15.0	58.3	26.7	15.3	44.5	40.2
Infections and inflammations of skin ---- 680-698	85.5	16.5	52.6	30.9	15.3	41.7	43.0
Malignant neoplasms ---- 140-209	70.1	*9.2	80.5	10.2	75.4	12.3	12.3
Menopausal symptoms ---- 627	63.6	*6.1	82.4	11.5	*3.3	18.5	78.2
Diseases of ear and mastoid process ---- 380-389	61.1	22.9	48.8	28.3	15.3	39.4	45.3
Synovitis, bursitis, tenosynovitis ---- 731	56.5	18.2	48.6	33.2	*11.8	42.8	45.4
65 years and over[2] ----	4,356.6	8.0	75.9	16.1	29.5	35.2	35.3
Ischemic heart disease ---- 410-414	400.9	*2.4	89.8	7.8	49.2	35.6	15.2
Hypertension ---- 400,401,403	385.2	*3.0	90.7	6.3	21.3	44.8	33.8
Arthritis and rheumatism ---- 710-718	315.5	5.0	82.4	12.6	21.1	43.0	35.9
Eye diseases, except refractive ---- 360-369,371-379	259.5	16.3	72.7	11.0	34.7	31.0	34.3
Diabetes mellitus ---- 250	196.2	*3.0	*90.0	6.9	36.4	34.3	29.3
Malignant neoplasms ---- 140-209	146.1	*6.9	83.3	9.9	77.1	14.8	*8.1
Bronchitis, emphysema, asthma ---- 490-493	131.4	*4.5	*84.9	10.6	42.4	38.2	19.5

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] All ages and age groups include office visits to physicians for the most common and all other principal diagnoses.

[3] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 83. Office visits to physicians, according to selected diagnostic and therapeutic service provided, age of patient, most common principal diagnosis, and ICDA code: United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Age of patient, most common principal diagnosis, and ICDA code[1]	Office visits per 1,000 population	Selected diagnostic service[2]			Selected therapeutic service[2]		
		General history or exam	Blood pressure check	Clinical lab test	Drug prescribed	Medical counseling	Injection, immunization or desensitization
		Percent of visits					
All ages[1]	2,770 7	16.3	33.2	22.8	43.6	12.9	17 6
Acute URI,[4] except influenza 460–465	175.6	11.5	20.5	19.9	80.4	7.2	28.1
Hypertension 400,401,403	110.9	12.8	79.9	20.6	61.0	14.6	9.7
Heart disease 390–398,402,404,410–414,420–429	103.5	17.3	74.0	25.4	55.2	17.4	12.4
Ischemic heart disease 410–414	75.1	16.2	76.6	25.4	55.6	18.2	11.8
Prenatal care Y06	101 3	13.7	73.9	59.7	16.5	10.0	1.6
Neuroses and nonpsychotic disorders 300–309	100.1	10.8	25.1	9.4	37.2	15.4	8.3
Arthritis and rheumatism 710–718	86 7	13.5	42.9	18 6	53.2	12.9	28.8
Infections and inflammations of skin 680–698	85.1	8 3	16.0	11.0	63.5	13.1	27.9
Diseases of ear and mastoid process 380–389	84.2	12 0	12.3	7 1	65.9	9.5	13.4
Bronchitis, emphysema, asthma 490–493	76.6	12.2	32.8	11.6	63 4	12.1	40.9
Sprains and strains 840–848	68.6	10 4	20 1	5.9	38.6	16 5	8.9
Eye diseases, except refractive 360–369,371–379	68 3	13.5	5.3	3.7	33.6	7.5	2.3
Diabetes mellitus 250	46.2	16.3	66.7	71.6	45.3	21.3	13.7
Refractive errors 370	41.3	20.7	*1.5	*1.6	*2.5	*2.6	*0.1
Hay fever 507	40.8	6.9	9.2	4.8	31.9	10.3	68.2
Obesity 277	38 0	19.2	67 2	21 2	63.6	31.1	14.8
Malignant neoplasms 140–209	35 0	13.8	31.9	35.3	27.2	12.8	18.7
Diseases of sebaceous glands (acne) 706	34 3	5.3	4.9	*4.1	56.8	15.9	6.2
Fracture 800–829	33.9	5.9	10.2	*1 2	12.9	14.3	*2.3
Lacerations 870–907	33.9	*2 9	7 5	*1.4	19.8	6.4	24.7
Synovitis, bursitis, tenosynovitis 731	28.4	9.3	22 4	8.0	44.0	13.8	38.5
Influenza 470–474	24.7	9.9	26.3	14.0	79.8	7 7	46.1
Cystitis 595	23.3	14.9	32.6	71.4	70.4	10.0	9.2
Under 15 years[1]	1,982.1	22 6	7.8	16 8	41.4	13.1	26.2
Medical or special exams Y00	360.2	59.8	15.2	23.6	6.1	17.9	51.5
Acute URI,[4] except influenza 460–465	326.6	14.1	4 8	23.6	78.2	7.7	22.2
Diseases of ear and mastoid process 380–389	169.1	13.0	*2.2	6.6	72.3	9.7	14.4
Infective and parasitic diseases 000–136	151.8	17.6	6.8	27.1	54.6	14.0	14 2
Infections and inflammations of skin 680–698	91.9	7.7	*2.6	6.7	60.1	13.1	31 6
Bronchitis, emphysema, asthma 490–493	83 9	11.9	*2.8	8.1	63.0	11 8	45.1
Hay fever 507	47.1	*7.7	*1.2	*4.3	27.5	*10 6	67.8
15–24 years[1]	2,259.0	15.5	31.8	27.1	42 2	12.0	12.5
Prenatal care Y06	270.4	13.8	74.5	62.1	17.2	10.2	*1.4
Medical or special exams Y00	196.7	44.3	49.9	52.0	23.1	8.6	8.0
Acute URI,[4] except influenza 460–465	138.0	10.1	27.2	21.3	83.7	5.8	32.3

Diseases of sebaceous glands (acne)	706	96.3	4.3	*2.4	*3.5	66.1	17.2	*5.8
Infections and inflammations of skin	680–698	79.0	*6.9	13.2	*6.8	61.0	10.9	31.1
Sprains and strains	840–848	77.2	*6.9	15.4	*4.8	43.1	21.7	*5.9
Neuroses and nonpsychotic disorders	300–309	69.6	*11.0	18.8	*10.3	35.9	14.3	*3.1
25–44 years[3]		2,794.2	15.8	34.3	24.5	42.0	12.8	13.0
Prenatal care	Y06	195.0	12.6	74.0	57.6	15.2	9.4	*1.0
Neuroses and nonpsychotic disorders	300–309	182.8	6.8	17.5	5.9	29.9	12.3	5.3
Medical or special exams	Y00	175.5	47.4	57.7	59.3	21.3	8.8	*2.4
Acute URI[4], except influenza	460–465	131.3	8.9	32.3	16.5	84.0	6.5	30.0
Sprains and strains	840–848	104.7	12.4	16.9	*5.1	40.1	18.1	7.6
Infections and inflammations of skin	680–698	78.9	8.2	17.0	14.8	67.4	13.0	22.7
Obesity	277	70.6	17.4	67.4	18.5	64.0	32.3	15.5
Arthritis and rheumatism	710–718	56.6	16.6	32.3	17.5	52.7	14.8	23.8
Hypertension	400,401,403	54.1	15.0	81.2	23.7	56.9	16.8	*8.9
Bronchitis, emphysema, asthma	490–493	51.4	15.2	35.5	11.5	62.1	15.0	39.7
Hay fever	507	49.9	*5.0	*10.4	*4.4	33.4	11.5	69.8
Diseases of ear and mastoid process	380–389	49.3	12.2	19.2	*6.0	66.4	*9.2	*10.3
45–64 years[3]		3,377.2	15.1	41.2	21.9	45.9	13.6	18.5
Hypertension	400,401,403	269.9	13.6	78.8	19.3	61.6	15.8	9.2
Arthritis and rheumatism	710–718	169.1	12.0	40.6	17.6	54.9	12.5	29.7
Ischemic heart disease	410–414	145.3	18.1	78.6	24.8	51.0	18.1	8.2
Medical or special exams	Y00	125.9	52.4	59 8	58.6	18.4	9.0	*4.1
Neuroses and nonpsychotic disorders	300–309	124.6	12.8	32.8	10.5	46.2	17.2	13.3
Acute URI,[4] except influenza	460–465	121.7	9.6	40.4	13.9	80.0	7.2	39.1
Bronchitis, emphysema, asthma	490–493	109.4	11.5	46 1	13.7	63.8	11.0	40.2
Eye diseases, except refractive	360–369,371–379	92.7	13.9	8.1	*3.5	31.8	*7.4	*3.0
Diabetes mellitus	250	92.2	18.1	69.2	68.1	50.1	25.1	12.2
Sprains and strains	840–848	89.1	11.0	28.6	*6.8	36.8	11.3	12.9
Infections and inflammations of skin	680–698	85.5	*7.6	22.9	12.6	66.8	15.1	26.6
Malignant neoplasms	140–209	70.1	15.6	30.1	34.1	28.1	13.4	22.2
Menopausal symptoms	627	63.6	19.3	50.3	24.0	39.7	17.4	58.5
Diseases of ear and mastoid process	380–389	61.1	13.5	26.3	*8.8	58.9	*9.9	12.2
Synovitis, bursitis, tenosynovitis	731	56.5	*10.9	22.6	*6.9	46.4	*10.6	42.9
65 years and over[3]		4,356.6	13.0	48.5	24.1	46.2	12.8	18.4
Ischemic heart disease	410–414	400.9	14.3	75.1	25.7	58.5	17.1	14.6
Hypertension	400,401,403	385.2	10.1	80.8	21.1	61.5	11.4	10.5
Arthritis and rheumatism	710–718	315.5	13.4	52.6	20.6	52.5	12.7	31.6
Eye diseases, except refractive	360–369,371–379	259.5	14.2	*4.0	*3.9	25.0	7.4	*1.1
Diabetes mellitus	250	196.2	12.4	66.7	74.3	43.5	17.0	16.7
Malignant neoplasms	140–209	146.1	11.9	33.8	34.8	28.9	10.2	15.9
Bronchitis, emphysema, asthma	490–493	131.4	11.7	57.5	14.3	64.1	14.0	35.5

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] More than one service was possible.

[3] All ages and age groups include office visits to physicians for the most common and all other principal diagnoses.

[4] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 84. Office visits to physicians, according to duration of visit, age of patient, most common principal diagnosis, and ICDA code: United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Age of patient, most common principal diagnosis, and ICDA code[1]	Office visits per 1,000 population	Duration of visit[2]				
		1–5 minutes	6–10 minutes	11–15 minutes	16–30 minutes	31 minutes or more
		Percent of visits				
All ages[3]	2,770 7	15.1	31.5	26.6	19.5	5.5
Acute URI,[4] except influenza 460–465	175.6	21.0	45.4	23.8	8 8	*0.6
Hypertension 400,401,403	110.9	13.8	32.5	30.7	17.0	3.6
Heart disease 390–398,402,404,410–414,420–429	103.5	5.1	25.1	33.5	29.4	6.0
Ischemic heart disease 410–414	75.1	4.9	26 3	34.1	28.3	5.4
Prenatal care Y06	101.3	39.8	33.5	14.9	10 1	1.5
Neuroses and nonpsychotic disorders 300–309	100.1	4 9	14.1	14.2	19.9	46.5
Arthritis and rheumatism 710–718	86.7	8 5	29.9	29.6	25.8	5.0
Infections and inflammations of skin 680–698	85.1	25.1	35 6	22.9	11.7	*1.2
Diseases of ear and mastoid process 380–389	84.2	20.0	41 8	23.3	12.9	*1.6
Bronchitis, emphysema, asthma 490–493	76.6	13.5	38.0	26.6	15.4	4.0
Sprains and strains 840–848	68.6	15.3	31.9	25.3	24.2	2.8
Eye diseases, except refractive 360–369,371–379	68.3	11.5	27.7	29.5	26.1	4.6
Diabetes mellitus 250	46.2	7.1	27.8	33.8	23.7	4.8
Refractive errors 370	41.3	*1.6	9.4	33 9	46.6	7.9
Hay fever 507	40.8	23.4	28.0	16.5	10.4	5.1
Obesity 277	38.0	20.2	32.6	21.1	19.2	4.3
Malignant neoplasms 140–209	35.0	13.8	23.1	29.6	26.8	5.4
Diseases of sebaceous glands (acne) 706	34.3	18.7	42.8	25 2	9.5	2.2
Fracture 800–829	33.9	15.0	31.4	25.8	23.8	*3.0
Lacerations 870–907	33.9	27.3	30.0	21.4	17.5	*1 4
Synovitis, bursitis, tenosynovitis 731	28.4	15.4	29.3	30.5	20.9	*3.4
Influenza 470–474	24.7	10.6	36.9	20.9	29.8	*1.3
Cystitis 595	23.3	16.2	38.1	28.0	14.1	*1.9
Under 15 years[5]	1,982.1	18.2	39.1	26.2	11 9	1.9
Medical or special exams Y00	360.2	8.9	33.6	40.9	14.6	*1.2
Acute URI,[4] except influenza 460–465	326.6	19.6	50.3	22.9	6 6	*0.3
Diseases of ear and mastoid process 380–389	169.1	23.9	46.8	21.0	7 1	*0.4
Infective and parasitic diseases 000–136	151.8	17.7	42.0	25.4	11.8	*1.0
Infections and inflammations of skin 680–698	91.9	30.0	37.7	18.7	6.4	*0.5
Bronchitis, emphysema, asthma 490–493	83.9	15.9	43.9	23.1	9.8	*2.7
Hay fever 507	47.1	19.9	26.4	17.1	*8.9	*5.2
15–24 years[6]	2,259.0	20 0	34.4	24.1	15.8	4 5
Prenatal care Y06	270 4	41.8	32.1	15.2	9 6	*1.1
Medical or special exams Y00	196.7	12.2	30.4	31.4	21.8	*3.0
Acute URI,[4] except influenza 460–465	138.0	24.2	42.3	23.9	8.3	*0.9

Diseases of sebaceous glands (acne) 706	96.3	19.6	45.8	24.5	*6.1	*1.4
Infections and inflammations of skin 680–698	79.0	28.9	37.8	20.8	10.2	*0.8
Sprains and strains 840–848	77.2	22.9	34.3	22.8	17.7	*2.0
Neuroses and nonpsychotic disorders 300–309	69.6	*3.4	12.8	13.0	19.1	51.6
25–44 years[3]	2,794.2	15.6	30.1	24.7	19.9	8.2
Prenatal care Y06	195.0	38.3	35.3	13.9	10.4	*1.9
Neuroses and nonpsychotic disorders 300–309	182.8	3.6	10.9	10.9	15.8	58.5
Medical or special exams Y00	175.5	4.8	22.2	33.8	30.6	8.5
Acute URI,[4] except influenza 460–465	131.3	21.4	42.6	25.2	10.0	*0.4
Sprains and strains 840–848	104.7	15.3	31.1	25.4	24.6	*3.1
Infections and inflammations of skin 680–698	78.9	26.5	32.3	22.3	14.7	*1.6
Obesity 277	70.6	21.7	34.2	22.3	15.8	*3.7
Arthritis and rheumatism 710–718	56.6	*9.9	25.9	28.4	30.6	*3.5
Hypertension 400,401,403	54.1	15.3	31.7	25.9	19.0	*4.9
Bronchitis, emphysema, asthma 490–493	51.4	12.0	41.7	23.8	15.5	*3.1
Hay fever 507	49.9	23.2	31.4	16.9	*8.6	*4.0
Diseases of ear and mastoid process 380–389	49.3	17.2	43.0	22.9	15.5	*1.4
45–64 years[3]	3,377.2	12.2	28.3	28.0	23.4	6.4
Hypertension 400,401,403	269.9	14.0	30.4	32.5	16.5	4.2
Arthritis and rheumatism 710–718	169.1	9.4	30.3	30.9	23.2	5.1
Ischemic heart disease 410–414	145.3	6.2	25.1	33.6	28.4	5.9
Medical or special exams Y00	125.9	*4.3	18.8	26.5	34.1	15.2
Neuroses and nonpsychotic disorders 300–309	124.6	7.7	18.5	17.2	22.7	33.5
Acute URI[4], except influenza 460–465	121.7	22.0	39.4	24.2	12.6	*1.1
Bronchitis, emphysema, asthma 490–493	109.4	10.7	36.3	28.3	18.7	*5.1
Eye diseases, except refractive 360–369,371–379	92.7	11.6	25.6	28.1	28.5	*5.4
Diabetes mellitus 250	92.2	*6.6	27.5	34.1	25.7	*4.4
Sprains and strains 840–848	89.1	10.3	30.2	28.7	26.8	*3.7
Infections and inflammations of skin 680–698	85.5	19.5	36.1	26.5	14.0	*1.6
Malignant neoplasms 140–209	70.1	12.8	26.5	29.3	25.4	*4.5
Menopausal symptoms 627	63.6	17.5	31.9	19.3	22.3	*4.6
Diseases of ear and mastoid process 380–389	61.1	13.6	30.7	28.7	22.4	*4.6
Synovitis, bursitis, tenosynovitis 731	56.5	12.7	29.4	35.0	19.4	*2.9
65 years and over[3]	4,356.6	10.9	27.5	29.9	24.9	4.9
Ischemic heart disease 410–414	400.9	3.9	26.4	35.2	28.4	4.8
Hypertension 400,401,403	385.2	13.3	36.2	29.3	16.7	*2.3
Arthritis and rheumatism 710–718	315.5	6.5	31.2	28.5	27.3	5.6
Eye diseases, except refractive 360–369,371–379	259.5	8.6	23.5	32.5	29.1	5.8
Diabetes mellitus 250	196.2	7.9	28.2	32.4	23.0	*4.7
Malignant neoplasms 140–209	146.1	14.0	19.3	30.1	28.1	*7.4
Bronchitis, emphysema, asthma 490–493	131.4	13.3	27.5	32.5	21.0	*4.9

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] Time spent in face-to-face contact between physician and patient.

[3] All ages and age groups include office visits to physicians for the most common and all other principal diagnoses.

[4] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 85. Office visits to physicians, according to selected disposition of visit, age of patient, most common principal diagnosis, and ICDA code: United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Age of patient, most common principal diagnosis, and ICDA code[1]	Office visits per 1,000 population	Selected disposition[2]			
		No followup	Return at specified time	Return if needed	Telephone followup
		Percent of visits			
All ages[1]	2,770 7	12.3	60.2	21 9	3.5
Acute URI,[4] except influenza 460–465	175.6	21.1	25.6	45.9	8.3
Hypertension 400,401,403	110.9	2.6	86.1	10.2	*1.0
Heart disease 390–398,402,404,410–414,420–429	103.5	2 5	83.9	8.8	2.0
Ischemic heart disease 410–414	75 1	*1.8	86.3	8.2	*1.2
Prenatal care Y06	101.3	*1 4	94.6	3.2	*0.5
Neuroses and nonpsychotic disorders 300–309	100.1	5 7	70.9	19.8	3.6
Arthritis and rheumatism 710–718	86.7	6.1	62.3	28.2	2.8
Infections and inflammations of skin 680–698	85.1	12 7	49.9	32.8	5.3
Diseases of ear and mastoid process 380–389	8.4	17.7	51.5	25.9	2.5
Bronchitis, emphysema, asthma 490–493	76.6	8.0	59.6	27.6	5.0
Sprains and strains 840–848	68.6	12.1	57 5	25.6	2.4
Eye diseases, except refractive 360–369,371–379	68.3	9.2	64.9	20.3	*1.4
Diabetes mellitus 250	46.2	*1 8	85.0	10.8	5.8
Refractive errors 370	41.3	26.1	40.8	32.2	*0.2
Hay fever 507	40.8	4 7	74 5	19.6	*1.8
Obesity 277	38 0	*3.0	85.8	11.3	*1.4
Malignant neoplasms 140–209	35 5	*1.9	82.8	5.9	*1.8
Diseases of sebaceous glands (acne) 706	34.3	8.0	73.7	15.1	*0.7
Fracture 800–829	33.9	8.4	72.8	13.4	*1.9
Lacerations 870–907	33.9	26.1	56.4	14.0	*1.3
Synovitis, bursitis, tenosynovitis 731	28.4	8.7	50.1	31.3	5.8
Influenza 470–474	24 7	20.0	21.5	53.0	*5.5
Cystitis 595	23 3	5.0	67.0	25.3	*4.7
Under 15 years[1]	1,982.1	19 9	47.6	26.0	6.1
Medical or special exams Y00	360.2	24.6	64.9	11.0	*1.1
Acute URI[4], except influenza 460–465	326.6	20.6	26.3	42.9	11.9
Diseases of ear and mastoid process 380–389	169 1	15.8	54.6	24.6	*2.3
Infective and parasitic diseases 000–136	151 8	20.5	32.0	33.9	14.3
Infections and inflammations of skin 680–698	91.9	17.1	43.7	36.5	7.1
Bronchitis, emphysema, asthma 490–493	83.9	7.7	53.5	33.2	*6.6
Hay fever 507	47 1	*6.0	77.6	19.0	*2.1
15–24 years[3]	2,259.0	16 4	56.6	21.8	3.0
Prenatal care Y06	270.4	*1.1	94.8	3.7	*0.5
Medical or special exams Y00	196.7	52.4	32.2	13.1	*2.6
Acute URI,[4] except influenza 460–465	138.0	25 1	22.6	46.3	6.3
Diseases of sebaceous glands (acne) 706	96.3	*7.6	77.1	14.5	*0.1
Infections and inflammations of skin 680–698	79.0	14.9	43.1	35.1	*3.9
Sprains and strains 840–848	77.2	14.1	53 2	26.4	*2.4
Neuroses and nonpsychotic disorders 300–309	69 6	*5.0	69.7	21.1	*5.3

25–44 years[3]		2,794.2	11.9	60.1	22.1	2.9
Prenatal care	Y06	195.0	*1.7	94.8	*2.5	*0.5
Neuroses and nonpsychotic disorders	300–309	182.8	5.2	76.6	15.2	*2.6
Medical or special exams	Y00	175.5	36.2	42.8	18.2	*2.7
Acute URI,[4] except influenza	460–465	131.3	23.8	22.0	48.4	5.4
Sprains and strains	840–848	104.7	9.7	64.0	21.7	*2.3
Infections and inflammations of skin	680–698	78.9	12.9	49.3	32.2	*4.9
Obesity	277	70.6	*2.4	89.1	8.4	*1.1
Arthritis and rheumatism	710–718	56.6	*7.1	56.1	33.3	*3.6
Hypertension	400,401,403	54.1	*3.0	86.5	*9.3	*1.9
Bronchitis, emphysema, asthma	490–493	51.4	*10.2	50.7	32.3	*7.9
Hay fever	507	49.9	*3.5	71.0	22.2	*1.6
Diseases of ear and mastoid process	380–389	49.3	19.0	40.9	32.9	*2.8
45–64 years[3]		3,377.2	8.9	64.7	21.3	2.9
Hypertension	400,401,403	269.9	2.6	87.3	9.2	*0.7
Arthritis and rheumatism	710–718	169.1	7.2	60.7	28.4	*3.0
Ischemic heart disease	410–414	145.3	*1.7	86.9	7.0	*1.7
Medical or special exams	Y00	125.9	32.1	45.3	18.6	*2.9
Neuroses and nonpsychotic disorders	300–309	124.6	6.7	65.5	24.5	*3.5
Acute URI,[4] except influenza	460–465	121.7	15.7	27.3	53.4	*4.2
Bronchitis, emphysema, asthma	490–493	109.4	7.1	67.0	23.3	*3.7
Eye diseases, except refractive	360–369,371–379	92.7	8.7	69.5	15.0	*1.0
Diabetes mellitus	250	92.2	*2.3	88.6	9.9	*2.9
Sprains and strains	840–848	89.1	8.9	55.5	30.4	*2.2
Infections and inflammations of skin	680–698	85.5	9.2	59.5	26.2	*5.6
Malignant neoplasms	140–209	70.1	*1.7	84.4	*5.3	*1.7
Menopausal symptoms	627	63.6	*6.5	60.9	30.8	*2.7
Diseases of ear and mastoid process	380–389	61.1	18.6	53.3	24.2	*2.8
Synovitis, bursitis, tenosynovitis	731	56.5	*7.3	48.9	35.5	*6.0
65 years and over[3]		4,356.6	5.9	71.1	18.0	2.7
Ischemic heart disease	410–414	400.9	*1.8	86.9	9.1	*0.8
Hypertension	400,401,403	385.2	*2.4	84.1	12.4	*1.2
Arthritis and rheumatism	710–718	315.5	*3.5	69.0	25.9	*1.4
Eye diseases, except refractive	360–369,371–379	259.5	5.7	72.5	16.9	*1.0
Diabetes mellitus	250	196.2	*1.7	81.5	12.0	8.1
Malignant neoplasms	140–209	146.1	*1.6	82.5	*5.3	*1.7
Bronchitis, emphysema, asthma	490–493	131.4	*6.5	69.4	20.0	*2.4

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] More than one disposition was possible.

[3] All ages and age groups include office visits to physicians for the most common and all other principal diagnoses.

[4] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 86. Office visits to physicians, according to physician specialty, location of practice, most common principal diagnosis, and ICDA code: United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Location of practice, most common principal diagnosis, and ICDA code[1]	Office visits per 1,000 population	Physician specialty							
		All specialties	General and family practice	Internal medicine	Pediatrics	Obstetrics and gynecology	Other medical	Other surgical	Other
		Percent distribution							
Within SMSA	2,959.9	100.0	31.8	13.1	10.6	9.5	7.5	22.2	5.4
Medical or special exams Y00	230.8	100 0	27 5	6 5	36.5	18.5	*0.7	8.6	1.6
Acute URI,[2] except influenza 460–465	172.6	100 0	50.2	8.7	29.2	*1.1	1.3	7.3	2.2
Medical and surgical aftercare Y10	148.2	100.0	13.5	4.3	3.8	11.0	2.1	64.3	*1.0
Neuroses and nonpsychotic disorders 300–309	123.1	100 0	22.4	11 0	2.0	*1.1	*1.6	2.6	59.3
Hypertension 400,401,403	116.1	100.0	51.6	33.7	*0.3	1.8	5.9	5.2	*1.4
Heart disease 390–398,402,404,410–414,420–429	111.8	100.0	37.7	41 4	*0.4	*0.3	16.5	2.1	*1.5
Ischemic heart disease 410–414	80.5	100.0	39.7	42.6	*0.0	*0.2	14 3	*1.9	*1.2
Prenatal care Y06	103.5	100.0	16.6	*0.2	*0.8	82 1	*0 0	*0.2	*0.2
Infections and inflammations of skin 680–698	88.8	100.0	33.0	7.7	14.7	*1 5	31.4	11.0	*0.8
Arthritis and rheumatism 710–718	87.7	100.0	47.3	28.3	*1.3	*0 7	3 0	15.4	3.9
Diseases of ear and mastoid process 380–389	87.4	100.0	27 3	4.9	34.4	*0 6	*1.3	30.6	*0.9
Bronchitis, emphysema, asthma 490–493	82.2	100.0	36.6	16.3	21.5	*0.4	21.2	*2.4	*1.7
Eye diseases, except refractive 360–369,371–379	81.6	100.0	5.7	*2.4	2.7	*0.1	*0.8	87.3	*1.0
Sprains and strains 840–848	75.1	100.0	47.1	8.4	*2.3	*0.9	*0.9	31 5	8.8
Hay fever 507	50.5	100.0	19.7	9.4	20.0	*0.3	39.8	10.4	*0.3
Refractive errors 370	47.9	100.0	*0.4	*3 2	*0 1	*–	*0.1	96.4	*–
Diabetes mellitus 250	44.2	100.0	49.1	38.2	*1.2	*0.9	*4.2	5.7	*0.8
Diseases of sebaceous glands (acne) 706	42.2	100.0	12.4	*1.2	*1.7	*1.0	71.5	12.2	*–
Malignant neoplasms 140–209	41.3	100.0	12.6	31 9	*0.7	*4.3	16.2	33 6	*0.6
Outside SMSA	2,357.6	100.0	61.9	6.3	5 6	5.3	2.2	17.2	1 5
Acute URI[2], except influenza 460–465	182.2	100.0	72.9	3.2	15.2	*1.0	*0.2	6.7	*0.9
Medical or special exams Y00	149.3	100.0	55.0	4.1	19.1	11.4	*0.3	9.1	*1.0
Medical and surgical aftercare Y10	106.6	100.0	40.4	*2.0	*4.0	5.4	*0.7	46.9	*0.6
Hypertension 400,401,403	99.6	100.0	77.3	12.2	*0 0	*1.0	*0.3	7.9	*1.4
Prenatal care Y06	96.7	100.0	45.1	*0 5	*0.1	51.4	*–	*2.5	*0.5
Heart disease 390–398,402,404,410–414,420–429	85.3	100.0	70.2	21.1	*0.9	*0.1	*1.1	*3.4	*3 2
Ischemic heart disease 410–414	63.3	100.0	69.7	23.1	*0.0	*–	*1 1	*3.2	*2.8
Arthritis and rheumatism 710–718	84.7	100.0	74.4	12.8	*0.2	*0.3	*0.4	10.6	*1.2
Diseases of ear and mastoid process 380–389	77.2	100.0	52.3	*2.5	14.4	*0.3	*0.7	27.9	*1.8

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 87. Office visits to physicians, according to prior visit status, seriousness of problem, location of practice, most common principal diagnosis, and ICDA code: United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Location of practice, most common principal diagnosis, and ICDA code[1]	Office visits per 1,000 population	Prior visit status			Seriousness of problem		
		Patient never seen before	Patient seen before		Serious or very serious	Slightly serious	Not serious
			Current problem	Another problem			
		Percent of visits					
Within SMSA	2,959.9	15.0	63.4	21.6	19.8	31.9	48.3
Medical or special exams Y00	230.8	17.5	60.3	22.2	1.2	3.6	95.2
Acute URI[2], except influenza 460–465	172.6	14.4	39.5	46.0	7.4	41.2	51.4
Medical and surgical aftercare Y10	148.2	3.7	87.9	8.5	17.6	23.8	58.6
Neuroses and nonpsychotic disorders 300–309	123.1	9.5	79.9	10.6	45.2	29.9	24.9
Hypertension 400,401,403	116.1	5.1	89.3	5.6	23.3	46.8	30.0
Heart disease 390–398,402,404,410–414,420–429	111.8	5.8	86.3	7.8	51.3	32.5	16.2
Ischemic heart disease 410–414	80.5	5.7	87.7	6.5	52.8	32.0	15.2
Prenatal care Y06	103.5	8.9	82.6	8.6	4.1	7.1	88.8
Infections and inflammations of skin 680–698	88.8	20.3	46.6	33.1	12.9	34.5	52.6
Arthritis and rheumatism 710–718	87.7	10.9	71.6	17.5	20.5	41.8	37.7
Diseases of ear and mastoid process 380–389	87.4	19.1	50.5	30.4	16.4	45.6	38.0
Bronchitis, emphysema, asthma 490–493	82.2	9.3	71.8	18.9	28.0	46.2	25.9
Eye diseases, except refractive 360–369,371–379	81.6	20.9	65.8	13.3	29.2	35.4	35.4
Sprains and strains 840–848	75.1	20.1	53.8	26.1	14.0	45.7	40.4
Hay fever 507	50.5	8.2	84.8	7.0	6.4	39.2	54.5
Refractive errors 370	47.9	38.5	52.5	9.0	*2.4	8.7	88.8
Diabetes mellitus 250	44.2	5.4	87.7	6.9	42.7	37.6	19.7
Diseases of sebaceous glands (acne) 706	42.2	18.7	67.6	13.6	7.8	29.0	63.1
Malignant neoplasms 140–209	41.3	9.8	81.3	9.0	73.9	14.6	11.6
Outside SMSA	2,357.6	13.3	59.1	27.6	17.5	33.6	48.9
Acute URI,[2] except influenza 460–465	182.2	13.7	38.8	47.5	9.1	40.8	50.1
Medical or special exams Y00	149.3	18.8	50.3	30.9	*1.4	4.4	94.2
Medical and surgical aftercare Y10	106.6	*3.7	83.8	12.5	18.2	27.5	54.2
Hypertension 400,401,403	99.6	*4.3	89.3	6.5	19.8	45.2	35.0
Prenatal care Y06	96.7	6.6	88.5	4.9	*2.8	7.1	90.1
Heart disease 390–398,402,404,410–414,420–429	85.3	*3.7	86.6	9.7	48.6	36.0	15.4
Ischemic heart disease 410–414	63.3	*2.6	88.8	8.6	50.6	35.1	14.3
Arthritis and rheumatism 710–718	84.7	7.7	74.7	17.6	24.2	43.3	32.5
Diseases of ear and mastoid process 380–389	77.2	17.9	44.3	37.7	11.5	46.2	42.3

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 88. Office visits to physicians, according to selected diagnostic and therapeutic service provided, location of practice, most common principal diagnosis, and ICDA code· United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Location of practice, most common principal diagnosis, and ICDA code[1]	Office visits per 1,000 population	Selected diagnostic services[2]				Selected therapeutic services[2]			
		General history or exam	Blood pressure check	Clinical lab test	X-ray	Drug prescribed	Medical counseling	Office surgery	Injection, immunization, or desensitization
		Percent of visits							
Within SMSA	2,959.9	17 6	32 7	22 3	8.0	42 1	13.6	7 1	16.6
Medical or special exams Y00	230.8	53 0	37 7	40 4	5.4	13 6	13 8	*0 9	27.9
Acute URI,[3] except influenza 460–465	172 6	14 5	21.6	20.8	3 1	80 1	8 1	*0 5	25.2
Medical and surgical aftercare Y10	148.2	5 7	14.0	9.7	9.1	13.8	12 1	22.0	4 0
Neuroses and nonpsychotic disorders 300–309	123 1	10.3	22.7	7.9	3.3	33 9	14 4	*0.2	6 6
Hypertension 400,401,403	116.1	14.4	80.7	21 4	5 5	62 7	15.6	*0.3	9 9
Heart disease 390–398,402,404,410–414,420–429	111.8	17.4	74 7	24.1	9 3	54.0	18 0	*0 5	11 9
Ischemic heart disease 410–414	80 5	17.2	76 7	24 6	8 2	55.8	18.8	*0 5	12.1
Prenatal care Y06	103.5	14.9	74 8	60 3	*0.6	16 3	10.1	*0.4	*1 8
Infections and inflammations of skin 680–698	88.8	8.7	15.0	10.3	*2 2	63 7	13 1	7 7	25.1
Arthritis and rheumatism 710–718	87.7	15.0	42.7	17 9	14 4	51.2	13 6	2 5	26.2
Diseases of ear and mastoid process 380–389	87.4	14.2	11.4	6.7	*1 7	64 7	9.6	11.8	13.3
Bronchitis, emphysema, asthma 490–493	82 2	13 6	32.7	11 4	11.3	62.1	14.2	*0.3	42.6
Eye diseases, except refractive 360–369,371–379	81.6	14 9	5 0	3 7	*1.0	32.1	7.4	5.3	*1.7
Sprains and strains 840–848	75 1	11.4	18.5	5 1	23 6	38.9	18.2	5.6	7.3
Hay fever 507	50.5	7.5	9.4	4 6	*2.1	30 9	10 4	*0.9	68.5
Refractive errors 370	47 9	22.4	*1.7	*2 0	*0 1	*2 4	*2 5	*0.4	*0.1
Diabetes mellitus 250	44.2	18.7	67 6	67 8	4 9	46.4	23.0	*1 3	11 9
Diseases of sebaceous glands (acne) 706	42 2	5 9	*4.2	*4 4	*0 9	57.3	14.2	31 9	*4 8
Malignant neoplasms 140–209	41 3	13.4	31 2	35.2	7 7	27 1	14 0	16 6	19.0
Outside SMSA	2,357.6	12.8	34.4	24 0	6 3	47 6	11 3	6.2	20 3
Acute URI,[3] except influenza 460–465	182.2	5.4	18.2	17.9	*1 0	80.8	5.4	*0.5	34.1
Medical or special exams Y00	149.3	50 7	36.3	44.9	5.4	17.0	10.0	*0 7	17.6
Medical and surgical aftercare Y10	106.6	*4.2	17.2	9.4	8.4	18.4	10 9	23.8	5 1
Hypertension 400,401,403	99.6	8.8	77.8	18.5	*2.6	56 7	12.2	*0.9	9.0
Prenatal care Y06	96.7	10.8	71 9	58.6	*1.3	16 8	9.8	*0.5	*1.3
Heart disease 390–398,402,404,410–414,420–429	85.3	17 2	72.0	29.2	*5.1	58.4	15.6	*0.6	13.6
Ischemic heart disease 410–414	63.3	13 3	76.2	27 7	*3 4	54.9	16.3	*0 9	11.2
Arthritis and rheumatism 710–718	84.7	10.2	43.5	20.0	10.7	57.7	11 2	*0 8	34.7
Diseases of ear and mastoid process 380–389	77 2	6.3	14.5	8.2	*1.7	69 0	9.1	9.7	13 6

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] More than one service was possible.

[3] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey

Table 89. Office visits to physicians, according to duration of visit, location of practice, most common principal diagnosis, and ICDA code: United States, average annual 1975–76

(Data are based on reporting by a sample of office-based physicians)

Location of practice, most common principal diagnosis, and ICDA code[1]	Office visits per 1,000 population	Duration of visit[2]				
		1–5 minutes	6–10 minutes	11–15 minutes	16–30 minutes	31 minutes or more
		Percent of visits				
Within SMSA	2,959.9	13.2	30.8	27.6	20.4	6.7
Medical or special exams Y00	230.8	6.8	28.0	36.0	23.3	5.1
Acute URI,[3] except influenza 460–465	172.6	16.7	47.7	24.6	10.0	*0.7
Medical and surgical aftercare Y10	148.2	24.0	34.8	24.3	14.0	2.1
Neuroses and nonpsychotic disorders 300–309	123.1	3.6	11.4	12.8	19.2	52.8
Hypertension 400,401,403	116.1	10.7	32.3	33.6	18.0	4.5
Heart disease 390–398,402,404,410–414,420–429	111.8	4.6	22.4	35.2	30.6	6.8
Ischemic heart disease 410–414	80.5	4.7	23.3	35.8	29.4	6.3
Prenatal care Y06	103.5	38.6	34.5	14.8	10.2	*1.9
Infections and inflammations of skin 680–698	88.8	21.6	37.1	24.5	12.9	*1.4
Arthritis and rheumatism 710–718	87.7	6.0	27.9	32.5	26.7	6.1
Diseases of ear and mastoid process 380–389	87.4	17.4	41.2	25.1	14.0	*2.0
Bronchitis, emphysema, asthma 490–493	82.2	13.3	36.3	25.8	17.0	4.8
Eye diseases, except refractive 360–369,371–379	81.6	11.1	27.1	29.0	26.9	5.1
Sprains and strains 840–848	75.1	14.4	29.6	26.8	25.4	3.4
Hay fever 507	50.5	24.2	26.8	16.6	11.3	5.5
Refractive errors 370	47.9	*1.7	9.9	36.3	44.1	7.4
Diabetes mellitus 250	44.2	*4.5	28.4	35.9	24.5	5.3
Diseases of sebaceous glands (acne) 706	42.2	17.0	42.8	26.7	10.2	*1.6
Malignant neoplasms 140–209	41.3	14.4	23.9	28.3	26.9	5.4
Obesity 277	40.5	20.8	31.1	23.8	17.8	*4.6
Lacerations 870–907	31.3	27.1	28.3	21.0	20.7	*2.0
Outside SMSA	2,357.6	20.5	33.6	23.8	17.1	2.4
Acute URI,[3] except influenza 460–465	182.2	29.9	40.6	22.1	6.3	*0.2
Medical or special exams Y00	149.3	11.7	29.3	33.6	19.8	4.7
Medical and surgical aftercare Y10	106.6	29.3	36.2	18.6	11.9	*1.4
Hypertension 400,401,403	99.6	21.8	33.0	23.3	14.4	*1.4
Prenatal care Y06	96.7	42.7	31.1	15.2	9.8	*0.6
Heart disease 390–398,402,404,410–414,420–429	85.3	6.5	33.0	28.7	26.2	*3.7
Ischemic heart disease 410–414	63.3	*5.3	34.6	29.5	25.1	*2.9
Arthritis and rheumatism 710–718	84.7	14.1	34.5	23.1	23.7	*2.6
Diseases of ear and mastoid process 380–389	77.2	26.4	43.1	18.8	10.1	*0.5
Infections and inflammations of skin 680–698	77.2	33.9	31.8	18.9	8.6	*0.9

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] Time spent in face-to-face contact between physician and patient.

[3] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 90. Office visits to physicians, according to selected disposition of visit, location of practice, most common principal diagnosis, and ICDA code: United States, average annual 1975–76

(Data are based on reporting of office-based physicians)

Location of practice, most common principal diagnosis, and ICDA code[1]	Office visits per 1,000 population	Selected disposition[2]			
		No followup	Return at specified time	Return if needed	Telephone followup
		Percent of visits			
Within SMSA	2,959.9	11.8	62.7	19.5	3.6
Medical or special exams Y00	230.8	31.4	52.9	14.0	2.2
Acute URI,[3] except influenza 460–465	172.6	21.8	26.0	43.8	9.1
Medical and surgical aftercare Y10	148.2	13.6	68.0	16.1	*1.0
Neuroses and nonpsychotic disorders 300–309	123.1	4.9	75.3	16.8	3.4
Hypertension 400,401,403	116.1	2.3	89.1	7.2	*1.2
Heart disease 390–398,402,404,410–414,420–429	111.8	2.3	85.8	7.6	*1.9
Ischemic heart disease 410–414	80.5	*1.8	88.4	6.7	*1.2
Prenatal care Y06	103.5	*1.2	94.6	3.3	*0.7
Infections and inflammations of skin 680–698	88.8	13.6	52.1	30.0	4.4
Arthritis and rheumatism 710–718	87.7	6.1	64.9	24.6	3.3
Diseases of ear and mastoid process 380–389	87.4	16.8	53.4	24.5	3.2
Bronchitis, emphysema, asthma 490–493	82.2	7.7	64.0	22.9	5.6
Eye diseases, except refractive 360–369,371–379	81.6	8.6	68.0	17.5	*1.5
Sprains and strains 840–848	75.1	11.3	60.0	23.5	*2.8
Hay fever 507	50.5	*3.9	77.0	17.8	*2.0
Refractive errors 370	47.9	24.5	42.4	30.8	*0.3
Diabetes mellitus 250	44.2	*1.7	87.5	8.0	*4.0
Diseases of sebaceous glands (acne) 706	42.2	7.5	74.5	14.4	*0.8
Malignant neoplasms 140–209	41.3	*1.9	83.3	5.5	*1.5
Obesity 277	40.5	*3.1	87.4	8.7	*1.3
Lacerations 870–907	31.3	25.2	57.0	13.8	*1.9
Outside SMSA	2,357.6	13.6	53.6	28.4	3.1
Acute URI,[3] except influenza 460–465	182.2	19.7	24.8	50.4	6.4
Medical or special exams Y00	149.3	39.5	45.8	14.5	*1.3
Medical and surgical aftercare Y10	106.6	17.2	60.2	21.9	*0.8
Hypertension 400,401,403	99.6	*3.3	78 4	18.0	*0.6
Prenatal care Y06	96.7	*1.8	94.6	*3.0	*0.2
Heart disease 390–398,402,404,410–414,420–429	85.3	*3.1	78.3	12.3	*2.4
Ischemic heart disease 410–414	63.3	*1.8	80.5	12.4	*1.2
Arthritis and rheumatism 710–718	84.7	6.1	56.4	36.5	*1.8
Diseases of ear and mastoid process 380–389	77.2	19 9	46.9	29.4	*0.9
Infections and inflammations of skin 680–698	77.2	10.6	44.2	39.6	7.8

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] More than one disposition was possible.

[3] Upper respiratory infections.

NOTE: Rates are based on the average annual civilian noninstitutionalized population, excluding Alaska and Hawaii.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the National Ambulatory Medical Care Survey.

Table 91. Physician visits, according to age, reason for visit, and self-assessment of health: United States, average annual 1974–75

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Reason for visit and self-assessment of health	Age					
	All ages	Under 18 years	18–24 years	25–44 years	45–64 years	65 years and over
	Visits per 1,000 population					
Total	4,998.6	4,167.3	4,793.6	5,016.5	5,574.1	6,668.0
Reason for visit						
Diagnosis or treatment	4,216.1	3,428.0	3,584.6	4,169.2	4,983.6	6,035.6
Pre- or postnatal care[1]	634.2	193.0	1,135.2	519.7	*	...
General checkup	403.1	433.9	418.8	396.5	366.0	378.6
Eye examination	27.6	23.4	27.6	22.2	33.3	42.1
Immunization	92.6	174.1	45.2	41.2	58.1	89.1
Self-assessment of health						
Excellent or good	4,130.7	3,863.1	4,235.1	4,217.2	4,064.9	5,028.4
Fair or poor	10,777.9	10,711.2	11,373.9	11,826.3	10,619.1	10,027.3

[1] Rate for all ages based on average annual female population 14–44 years of age; rate for under 18 years based on female population 14–17 years of age; rate for 18–24 years based on female population 18–24 years of age; and rate for 25–44 years based on female population 25–44 years of age.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 92. Episodes of persons injured, according to source or place of first medical attention, sex, age, and family income: United States, 1975

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Sex, age, and family income	All medically attended episodes in thousands[1]	Source or place of first medical attention				
		Total	Doctor's office[2]	Hospital outpatient department[3]	Telephone	Other[4]
		Percent distribution				
Total[5]	57,855	100.0	32.9	42.8	12.5	11.1
Sex						
Male	31,217	100.0	29 7	48.6	8.6	12.5
Female	26,639	100.0	36.7	36.0	17.1	9.5
Age						
Under 18 years	22,249	100 0	30.7	46.9	15.3	6.8
18–44 years	23,648	100.0	30.9	41.7	10.0	16.5
45–64 years	8,207	100.0	40.8	39.4	11.4	8.4
65 years and over	3,751	100.0	41.5	32.8	*14.1	*9.1
Family income						
Less than $5,000	9,391	100.0	31.1	45.2	9.3	13.8
$5,000–$9,999	12,664	100.0	30 9	46.1	10.5	11.0
$10,000–$14,999	13,937	100.0	32 5	38.9	14.4	13.4
$15,000 or more	18,341	100.0	36.1	40.2	14.8	8.9

[1] Includes medically attended episodes of persons while inpatients in hospitals.
[2] Includes private doctor's office, doctor's clinic, or group practice.
[3] Includes hospital outpatient clinic or emergency room.
[4] Includes home, company or industry clinic, other, or unknown place of first medical attention.
[5] Includes unknown family income.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 93. Persons who received services from selected medical practitioners during the year prior to interview, according to selected characteristics: United States, 1974

(Data are based on interviews of a sample of the civilian noninstitutionalized population)

Selected characteristic	Selected medical practitioner				
	Physician[1]	Dentist	Chiro-practor	Podiatrist	Physical therapist
	Percent of population who received services				
Total[2]	63.4	49.3	3.6	2.4	1.6
Sex					
Male	56.9	47.6	3.8	1.6	1.6
Female	69.6	50.9	3.5	3.1	1.5
Color					
White	65.5	51.6	4.0	2.5	1.6
All other	49.4	33.9	1.0	1.7	1.4
Age					
Under 17 years	62.5	50.1	1.1	1.0	0.6
17–44 years	63.4	55.3	4.2	1.4	1.8
45–64 years	62.5	47.0	6.2	4.1	2.3
65 years and over	68.4	28.1	3.9	7.0	2.2
Family income					
Less than $5,000	58.7	33.5	3.2	2.8	2.0
$5,000–$9,999	60.9	39.6	3.8	2.2	1.8
$10,000–$14,999	65.0	51.8	4.1	1.9	1.3
$15,000 or more	68.4	64.1	3.5	2.7	1.4
Geographic region					
Northeast	63.8	53.2	3.3	3.9	1.4
North Central	65.5	51.2	4.2	2.6	1.7
South	61.8	43.7	2.5	1.3	1.3
West	62.8	51.1	5.0	2.0	1.9
Place of residence					
SMSA	63.4	51.7	3.0	2.8	1.6
Central city	59.4	47.0	2.4	3.1	1.6
Outside central city	66.6	55.4	3.4	2.5	1.5
Outside SMSA	63.5	43.9	5.1	1.5	1.5
Self-assessment of health					
Excellent or good	62.4	51.6	3.5	2.2	1.1
Fair or poor	70.8	35.1	4.4	4.0	4.3

[1] Includes persons receiving care at a private doctor's office, doctor's clinic, or group practice.
[2] Includes unknown family income.

SOURCES: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey; National Center for Health Statistics: Utilization of selected medical practitioners, United States, 1974, by L. J. Howie. *Advance Data from Vital and Health Statistics,* No. 24. DHEW Pub. No. (PHS) 78–1250. Public Health Service. Hyattsville, Md., March 24, 1978.

Table 94. Product-related injuries treated in hospital emergency rooms, according to age, sex, and category of consumer product: United States, 1977

(Data are based on reporting by a sample of hospital emergency rooms)

Sex and product category	Estimated number of injuries	Age							
		All ages	Under 6 years	6–11 years	12–17 years	18–24 years	25–44 years	45–64 years	65 years and over
		Percent distribution							
Both sexes[1]	9,390,793	100.0	15.2	15.4	21.2	15.9	20.1	8.4	3.7
Home structures and fixtures, construction materials	2,146,375	100.0	16.2	13.8	14.4	14.7	21.9	12.1	6.8
Stairs, ramps, and landings (indoors or outdoors)	581,894	100.0	14.0	6.7	11.5	15.6	24.9	16.2	11.0
Nails, tacks, and screws	295,900	100.0	9.3	21.5	18.4	14.6	24.3	10.1	1.8
Space heating, cooling, and ventilating appliances	99,474	100.0	31.9	12.8	10.2	10.5	18.7	10.6	5.2
Home furnishings	684,639	100.0	39.9	13.5	7.0	8.5	13.8	9.0	8.1
Home communications and hobby equipment	56,140	100.0	39.4	8.9	9.5	12.8	17.8	7.0	4.6
General household appliances	58,721	100.0	26.4	9.7	9.2	10.0	21.4	14.9	8.3
Kitchen appliances and unpowered housewares	609,887	100.0	8.1	8.3	14.9	22.2	30.8	12.7	2.9
Knives and cutlery	310,380	100.0	3.9	8.5	16.9	22.0	31.8	13.6	3.1
Packaging and containers for household products	221,551	100.0	16.0	16.7	17.9	15.8	23.0	9.2	3.0
Home and family maintenance products	133,062	100.0	37.3	9.3	11.9	13.5	18.6	7.5	1.8
Home workshop apparatus	346,373	100.0	5.1	5.0	11.3	16.5	35.3	19.9	6.8
Yard and garden equipment	217,428	100.0	7.6	9.6	13.9	11.1	31.5	19.5	6.5
Child nursery equipment	44,343	100.0	80.2	5.0	1.8	4.2	4.1	2.7	1.8
Toys (excluding riding or ride-on toys)	100,256	100.0	36.1	26.8	17.4	9.4	8.8	1.4	0.2
Riding or ride-on recreational equipment	773,867	100.0	12.7	36.9	33.7	6.6	7.8	1.9	0.3
Bicycles	493,239	100.0	14.0	41.1	30.1	5.8	6.7	1.8	0.5
Sports ball and related equipment	1,399,871	100.0	0.8	12.0	43.6	23.9	18.4	1.1	0.1
Football	406,484	100.0	0.4	12.7	60.3	19.0	7.1	0.3	0.0
Baseball	400,275	100.0	1.9	15.0	27.8	24.9	28.8	1.4	0.2
Basketball	371,880	100.0	0.2	5.7	45.1	31.8	16.5	0.6	0.1
Winter sports and related equipment	217,699	100.0	1.5	16.6	36.8	22.0	18.2	4.4	0.4
Other sports and recreational equipment	701,428	100.0	14.8	24.6	27.3	12.1	15.1	5.1	1.0
Miscellaneous	776,633	100.0	14.9	18.0	17.7	17.6	20.5	8.1	3.0
Glass (unknown origin)	358,778	100.0	13.7	23.1	18.6	18.6	19.3	5.4	1.0
Products under regulation by other Federal agencies[2]	803,044	100.0	20.6	8.4	13.3	20.2	23.4	10.4	3.6
Male	5,785,661	100.0	14 7	15.8	23.9	17.0	19.4	6.9	2.3
Home structures and fixtures, construction materials	1,172,419	100.0	18.2	15.5	15.9	15.5	21.3	9.5	4.1
Stairs, ramps, and landings (indoors or outdoors)	233,897	100.0	20.8	7.8	12.5	16.4	22.9	11.5	7.9
Nails, tacks, and screws	194,247	100.0	9.4	21.3	20.4	14.7	23.4	9.2	1.6
Space heating, cooling, and ventilating appliances	65,617	100.0	31.9	12.1	10.5	11.5	19.7	10.2	4.1
Home furnishings	342,785	100.0	47.9	16.1	7.4	8.1	10.7	5.5	4.2
Home communications and hobby equipment	30,072	100.0	43.1	9.0	11.2	10.9	16.5	5.7	3.5
General household appliances	25,531	100.0	35.1	10.3	8.0	8.4	15.8	18.9	3.5
Kitchen appliances and unpowered housewares	304,579	100.0	9.5	10.6	18.4	22.4	26.9	10.0	2.2
Knives and cutlery	191,287	100.0	4.0	9.7	20.7	23.4	28.9	10.8	2.4

Packaging and containers for household products	120,356	100.0	17.7	20.5	19.8	16.5	18.0	6.0	1.4
Home and family maintenance products	83,894	100.0	36.1	10.0	13.6	15.7	16.8	6.0	1.8
Home workshop apparatus	289,102	100.0	3.8	4.2	11.9	17.4	36.5	19.8	6.3
Yard and garden equipment	170,249	100.0	6.7	9.4	14.9	12.2	32.1	19.3	5.0
Child nursery equipment	22,209	100.0	87.1	4.8	2.0	2.2	2.3	1.3	0.3
Toys (excluding riding or ride-on toys)	67,356	100.0	34.5	27.2	20.4	9.5	6.8	1.3	0.2
Riding or ride-on recreational equipment	490,024	100.0	12.2	35.5	37.1	6.7	6.5	1.5	0.4
Bicycles	326,218	100.0	12.7	39.3	34.1	6.0	5.7	1.6	0.5
Sports ball and related equipment	1,127,207	100.0	0.7	11.3	43.2	24.9	18.7	1.1	0.1
Football	387,300	100.0	0.4	12.4	60.7	19.1	7.0	0.3	0.0
Baseball	292,909	100.0	1.5	15.5	26.4	24.7	30.2	1.5	0.1
Basketball	306,107	100.0	0.3	4.6	40.3	35.3	18.9	0.6	0.0
Winter sports and related equipment	144,170	100.0	1.3	16.1	36.0	23.6	18.8	4.0	0.3
Other sports and recreational equipment	436,171	100.0	13.3	22.5	28.3	13.4	16.2	5.2	1.1
Miscellaneous	412,588	100.0	16.1	21.2	19.1	16.1	17.3	7.7	2.4
Glass (unknown origin)	202,087	100.0	14.5	27.1	20.1	18.0	15.6	3.8	0.8
Products under regulation by other Federal agencies[2]	481,330	100.0	19.4	7.9	14.2	22.3	24.7	9.0	2.4
Female	3,594,677	100.0	16.0	14.9	17.0	14.2	21.1	10.8	5.9
Home structures and fixtures, construction materials	971,196	100.0	13.9	11.7	12.5	13.8	22.7	15.2	10.1
Stairs, ramps, and landings (indoors or outdoors)	347,070	100.0	9.5	5.9	10.8	15.0	26.2	19.4	13.1
Nails, tacks, and screws	101,401	100.0	9.1	22.1	14.4	14.6	25.9	11.7	2.1
Space heating, cooling, and ventilating appliances	33,638	100.0	31.7	14.3	9.9	8.6	16.9	11.4	7.2
Home furnishings	341,247	100.0	31.9	11.0	6.6	8.9	16.9	12.6	12.0
Home communications and hobby equipment	25,934	100.0	35.0	8.8	7.6	15.1	19.3	8.4	5.9
General household appliances	33,190	100.0	19.8	9.3	10.1	11.2	25.8	11.8	12.0
Kitchen appliances and unpowered housewares	304,290	100.0	6.8	5.9	11.3	21.8	34.7	15.5	3.7
Knives and cutlery	118,430	100.0	3.6	6.6	10.9	19.6	36.7	18.3	4.2
Packaging and containers for household products	100,860	100.0	14.1	12.3	12.1	14.7	28.9	13.0	4.9
Home and family maintenance products	49,168	100.0	39.5	8.1	9.1	9.6	21.7	10.0	2.0
Home workshop apparatus	56,905	100.0	11.6	8.9	8.2	12.1	29.1	20.7	9.3
Yard and garden equipment	46,981	100.0	10.8	10.4	10.5	7.1	29.3	20.3	11.6
Child nursery equipment	22,100	100.0	73.4	5.3	1.7	6.3	5.9	4.2	3.3
Toys (excluding riding or ride-on toys)	32,750	100.0	39.6	25.8	11.0	9.1	12.7	1.4	0.4
Riding or ride-on recreational equipment	283,399	100.0	13.6	39.4	27.6	6.5	10.2	2.4	0.2
Bicycles	166,759	100.0	16.6	44.6	22.3	5.5	8.6	2.1	0.3
Sports ball and related equipment	270,580	100.0	1.5	14.8	45.8	19.3	17.4	1.1	0.2
Football	18,877	100.0	1.0	19.2	53.2	18.2	7.8	0.6	—
Baseball	106,416	100.0	3.0	13.5	31.5	25.2	25.3	1.2	0.3
Basketball	65,283	100.0	0.2	10.8	67.5	15.3	5.3	0.7	0.1
Winter sports and related equipment	73,396	100.0	1.9	17.7	38.3	19.1	17.1	5.3	0.5
Other sports and recreational equipment	264,724	100.0	17.3	28.1	25.5	9.9	13.3	5.0	0.8
Miscellaneous	363,037	100.0	13.5	14.4	16.2	19.3	24.2	8.7	3.6
Glass (unknown origin)	156,254	100.0	12.4	18.0	16.8	19.4	24.3	7.4	1.4
Products under regulation by other Federal agencies[2]	321,272	100.0	22.2	9.0	11.9	17.0	21.6	12.5	5.5

[1] Includes unknown sex.
[2] Other than the U.S. Consumer Product Safety Commission.

NOTE: Alaska and Hawaii are excluded from the National Electronic Injury Surveillance System.

SOURCE: U.S. Consumer Product Safety Commission: Data from the National Electronic Injury Surveillance System.

Table 95. Emergency room reports of drug abuse patients, according to motivation for taking substance, age, sex, and race: United States, reporting areas, May 1976–April 1977

(Data are based on reporting by a sample of hospital emergency rooms)

Age, sex, and race	Number of emergency room reports	Motivation for taking substance					
		All motivations	Psychic effects	Dependence	Suicide attempt or gesture	Other	Unknown or non-response
		Percent distribution					
Total	123,164	100.0	20.8	16.1	38.8	2.4	21.9
Age							
Under 10 years	121	100.0	9.9	–	15.7	28.1	46.3
10–19 years	25,418	100.0	28.1	5.8	38.8	2.1	25.2
20–29 years	53,789	100.0	21.7	21.2	34.7	2.1	20.3
30–39 years	23,291	100.0	17.3	18.3	41.8	2.4	20.3
40–49 years	11,190	100.0	14.2	14.2	47.0	2.9	21.6
50 years and over	7,930	100.0	11.7	10.3	48.6	4.7	24.7
Unknown	1,425	100.0	14.0	16.8	29.6	1.5	38.2
Sex							
Male	51,129	100.0	25.4	24.7	25.5	2.3	22.0
Female	71,832	100.0	17.5	9.9	48.3	2.5	21.8
Unknown	203	100.0	24.6	19.7	32.5	1.0	22.2
Race							
White	74,455	100.0	20.9	11.2	44.1	2.4	21.4
Black	28,698	100.0	23.2	31.0	25.5	2.7	17.6
Other races	4,782	100.0	22.6	21.7	36.3	2.0	17.4
Unknown	15,229	100.0	15.3	9.8	38.7	2.2	34.0

NOTES: Includes only medical emergencies related directly or indirectly to drug ingestion. One emergency room episode can involve more than one drug. Each drug included in an episode constitutes a drug report. Data are for 24 standard metropolitan statistical areas.

SOURCE: Drug Enforcement Administration, U.S. Department of Justice, and National Institute on Drug Abuse, U.S. Department of Health, Education, and Welfare: Data from Project DAWN V.

Table 96. Ranks of leading drugs in drug abuse reports from emergency rooms, according to age of patient and type of drug: United States, reporting areas, May 1976–April 1977

(Data are based on reporting by a sample of hospital emergency rooms)

Type of drug	Age					
	All ages[1]	10–19 years	20–29 years	30–39 years	40–49 years	50 years and over
20 most commonly named drugs	Number of reports	Ranks of leading drugs				
Diazepam	21,800	1	1	1	1	1
Alcohol (in combination)[2]	19,171	2	3	2	2	2
Heroin/Morphine	12,634	6	2	3	4	11
Aspirin	7,093	3	4	4	6	5
Flurazepam	4,594	11	8	5	3	3
D-Propoxyphene	4,357	5	6	7	7	8
Chlordiazepoxide	3,739	13	12	6	5	4
Marijuana or Hashish	3,602	4	9	++	++	++
Methadone	3,355	++	5	9	13	++
Phenobarbital	3,078	10	13	10	9	7
Amitriptyline	2,999	15	14	8	8	6
Secobarbital	2,975	9	10	11	10	9
Secobarbital/Amobarbital	2,910	14	7	12	15	10
Methaqualone	2,214	12	11	17	17	16
Acetaminophen	2,076	8	17	15	16	14
Ethchlorvynol	2,012	++	15	13	11	12
PCP	1,790	7	18	++	++	++
Perphenazine/Amitriptyline	1,527	17	++	14	11	13
Cocaine	1,433	16	16	18	++	++
Clorazepate	1,343	++	++	16	14	15

[1] Includes persons under 10 years of age and persons with unknown age.

[2] Alcohol is included only when involved in a medical emergency along with at least one other drug. Alcohol alone is excluded.

NOTES: The symbol ++ denotes that the drug does not rank in the top 20 drugs. Only medical emergencies related directly or indirectly to drug ingestion are included. One emergency room episode can involve more than one drug. Each drug included in an episode constitutes a drug report. Although there were 152 emergency room reports for children under 10 years of age, the number of episodes by drug of abuse were too small for ranking purposes. Data are for 24 standard metropolitan statistical areas.

SOURCE: Drug Enforcement Administration, U.S. Department of Justice, and National Institute on Drug Abuse, U.S. Department of Health, Education, and Welfare: Data from Project DAWN V.

Table 97. Dental visits, according to age of patient and selected characteristics: United States, average annual 1975–76

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Selected characteristic	Age					
	All ages	Under 18 years	18–24 years	25–44 years	45–64 years	65 years and over
	Dental visits per 1,000 population					
Total[1]	1,612.1	1,563.2	1,726.7	1,664.0	1,758.2	1,200.2
Sex						
Male	1,483.0	1,466.0	1,498.5	1,488.3	1,590.0	1,261.4
Female	1,732.3	1,663.8	1,940.1	1,828.0	1,911.5	1,157.4
Color						
White	1,706.7	1,716.9	1,832.3	1,730.2	1,819.0	1,254.7
All other	984.1	777.8	1,071.7	1,200.3	1,231.0	665.1
Family income						
Less than $5,000	1,063.7	918.5	1,611.7	1,220.1	1,134.5	726.3
$5,000–$9,999	1,293.0	1,030.9	1,617.7	1,288.9	1,433.5	1,362.2
$10,000–$14,999	1,513.0	1,379.1	1,611.1	1,536.1	1,631.3	1,602.8
$15,000 or more	2,148.8	2,225.3	2,023.9	2,054.9	2,244.8	2,005.5
Geographic region						
Northeast	1,859.5	1,747.7	2,080.7	1,984.5	1,969.7	1,408.0
North Central	1,645.4	1,689.1	1,759.7	1,675.4	1,764.1	1,072.7
South	1,290.5	1,202.8	1,324.8	1,364.2	1,442.8	1,044.2
West	1,815.1	1,798.1	1,925.9	1,768.8	2,011.3	1,409.4
Location of residence[2]						
Within SMSA	1,753.2	1,670.0	1,764.8	1,818.6	1,952.0	1,403.0
Large SMSA	1,885.5	1,802.0	1,841.8	1,929.8	2,125.8	1,554.7
Core counties	1,828.2	1,659.6	1,857.6	1,855.2	2,118.8	1,607.6
Fringe counties	2,007.0	2,074.6	1,804.3	2,078.6	2,141.2	1,402.1
Medium SMSA	1,614.3	1,582.4	1,731.2	1,646.7	1,760.2	1,164.1
Other SMSA	1,518.4	1,343.8	1,533.5	1,736.4	1,621.9	1,323.6
Outside SMSA	1,223.4	1,275.9	1,618.0	1,189.8	1,219.7	758.6
Adjacent to SMSA	1,292.1	1,307.0	1,682.2	1,288.3	1,326.6	789.7
Not adjacent to SMSA	1,130.2	1,232.1	1,531.8	1,050.6	1,079.8	720.5

[1] Includes unknown family income.

[2] Grouped according to the April 1973 Office of Management and Budget metropolitan-nonmetropolitan designations.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 98. Persons 25–74 years of age who visited a dentist during the year prior to interview, according to reason for visit, age, and family income: United States, 1971–74

(Data are based on interviews of a sample of the civilian noninstitutionalized population)

Age and family income	Percent of population 25–74 years with dental visit	Reason for visit								
		All reasons	Regular checkup or cleaning	Toothache	Teeth filled	Trouble with gums	Tooth pulled or other surgery	Repair of dental plate	New dental plate made	Other
		Percent distribution								
Total[1]	44.3	100.0	49.4	3.2	17.4	2.3	10.4	5.6	3.8	7.9
Age										
25–34 years	47.4	100.0	50.0	3.4	21.7	1.5	11.4	1.7	1.9	8.4
35–44 years	49.9	100.0	53.9	3.6	15.0	2.2	11.2	3.2	3.2	7.6
45–54 years	47.9	100.0	49.1	3.1	17.7	2.7	8.1	7.1	4.6	7.3
55–64 years	37.6	100.0	47.1	1.1	13.3	2.7	9.3	10.1	7.4	9.3
65–74 years	31.6	100.0	41.5	4.7	15.5	2.5	12.0	12.7	4.7	6.0
Family income										
Less than $4,000	24.6	100.0	24.0	4.5	14.2	7.7	25.6	8.1	8.9	6.9
$4,000–$6,999	32.5	100.0	30.2	4.6	20.6	2.2	15.1	13.2	6.5	7.7
$7,000–$9,999	41.2	100.0	49.0	3.9	16.5	1.5	11.2	5.8	4.6	7.5
$10,000–$14,999	45.6	100.0	50.9	3.5	18.6	2.4	10.1	4.6	3.3	6.6
$15,000 or more	61.5	100.0	61.3	1.5	15.6	1.5	5.0	3.7	2.4	8.9

[1] Includes unknown family income.

SOURCE: Division of Health Examination Statistics, National Center for Health Statistics: Data from the Health and Nutrition Examination Survey.

Table 99. Persons with mental disorders and percent of population, according to treatment sector and setting: United States, 1975

(Data are based on reporting by facilities)

Treatment sector and setting	Persons with mental disorders		
	Number	Percent of total	Percent of resident population
Unduplicated total	31,955,000	100.0	15.0
Unduplicated human services sector	6,861,000	21.5	3.2
Unduplicated health care sector	25,094,000	78.5	11.8
Unduplicated specialty mental health sector	6,698,000	21.0	3.1
State and county mental hospitals	789,000	2.5	0.4
Psychiatric units of general and neuropsychiatric Veterans Administration hospitals	351,000	1.1	0.2
Private mental hospitals and residential treatment centers	233,000	0.7	0.1
Non-Federal general hospitals with psychiatric units	927,000	2.9	0.4
Community mental health centers	1,627,000	5.1	0.8
Freestanding outpatient and multiservice clinics	1,763,000	5.5	0.8
Halfway houses for the mentally ill	7,000	0.0	0.0
College campus mental health clinics	131,000	0.4	0.1
Office-based private practice psychiatrists	854,000	2.7	0.4
Private practice psychologists	425,000	1.3	0.2
Unduplicated general hospital inpatient and nursing home sector	1,100,000	3.4	0.5
Non-Federal general hospitals without separate psychiatric units	812,000	2.5	0.4
Federal general hospitals (excludes psychiatric units of Veterans Administration hospitals)	59,000	0.2	0.0
Nursing homes	207,000	0.6	0.1
Nonpsychiatric specialty hospitals	22,000	0.1	0.0
Unduplicated primary care and outpatient medical sector	19,218,000	60.1	9.0
Office-based primary care physicians	10,710,000	33.5	5.0
Other office-based nonprimary care physicians	2,337,000	7.3	1.1
Neighborhood health centers	314,000	1.0	0.1
Industrial health facilities	314,000	1.0	0.1
Health department clinics	941,000	2.9	0.4
General hospital outpatient and emergency rooms	6,391,000	20.0	3.0

NOTE: The numbers shown include adjustments within and across settings or sectors to unduplicate individuals seen in multiple settings and sectors to the extent possible.

SOURCE: National Institute of Mental Health: Unpublished data from Division of Biometry and Epidemiology.

B. Inpatient Care in Short-Term Facilities

Most hospital care in the United States is provided in short-stay hospitals (i.e., hospitals having an average length of stay of less than 30 days). In 1976, there were 36.5 million discharges from all short-stay hospitals, including Federal hospitals, that accounted for 292.4 million days of care. This volume of service represents an 11.2-percent increase in discharges and a 5.3-percent increase in days of care over 1971 figures.

Non-Federal short-stay hospitals accounted for about 95 percent of all discharges from short-stay hospitals in 1976. Since nearly all discharges from non-Federal short-stay hospitals occur in community hospitals, data from these two types of hospitals are comparable. It is generally the civilian noninstitutionalized population that uses these hospitals.

The use of non-Federal short-stay hospitals varies among age groups of the population. In general, use of hospital services increases with age. Average annual figures for 1975–76 show that, with the exception of those under 1 year of age, children had the lowest discharge rates. Children 10–14 years of age had the lowest rate of all age groups with a rate of 48.5 discharges per 1,000 population. When discharges for deliveries were excluded, rates for both males and females increased at each succeeding 5-year age group after 14 years of age. Persons 65 years of age and over were discharged from the hospital at more than twice the rate of persons 15–44 years of age and at more than 5 times the rate of those under 15 years of age.

Overall, women were hospitalized more often than men in 1975–76, even when discharges for childbirth and pregnancy-related disorders were excluded. This sex difference varied by age, however. For people under 15 years of age and 65 years of age and over, discharge rates for men were higher than those for women. The two major factors that contributed to the higher overall female rate were the much higher rate for women 15 to 44 years of age than for men in the same age group and the greater number of women than men in the older age groups.

Over the 10-year period from 1965 to 1975, discharge rates from non-Federal short-stay hospitals were unchanged for children under 15 years of age. However, rates decreased for people 15–44 years of age and increased for people 45 years of age and over. As a result of older people having higher discharge rates than younger people and their constituting a growing proportion of the total population, the total discharge rate increased from 151.7 per 1,000 persons in 1965 to 162.8 in 1975. Assuming no significant changes in either medical practice or controls on hospital use, these rates can be expected to continue to rise, since population projections show that the median age as well as the proportion of the population over 65 years of age will continue to increase in the future.

The average length of stay of persons discharged from non-Federal short-stay hospitals in 1975–76 was 7.6 days. It increased as age increased, with patients over 65 years of age staying an average of 7 days longer than those under 15 years of age. This age differential held true even for specific diagnoses. For example, a patient 65 years of age and over with a fracture stayed an average of 16.7 days in the hospital, while a patient under 15 years of age with a fracture stayed only an average of 6.2 days. Such age differences for the same or similar conditions reflect the tendency of older persons to have more complications that require complex treatment and longer recuperative time.

Men had longer average lengths of stay in the hospital than women in 1975–76. Much of this difference can be explained by the large number of women who enter the hospital for delivery, which normally requires only a short length of stay.

The average length of stay decreased in each age group between 1965 and 1975 with the greatest decrease for people 65 years of age and over. The overall average length of stay, however, did not change significantly

NOTE: Unless otherwise noted, data are from the ongoing data-collection systems of the National Center for Health Statistics. In many instances the data have been published in the *Vital and Health Statistics* series.

because a higher proportion of discharges for older people who had longer lengths of stay offset the decreases in each of the age groups.

One way of examining the reasons people use non-Federal short-stay hospitals is to look at the number of days spent in those hospitals by patients for various diseases and conditions. Although childbirth was the most common reason for entering hospitals in 1975–76, more days of care were accounted for by heart diseases, malignant neoplasms, and fractures. Women stayed in the hospital an average of 4.0 days for delivery, while the average length of stay for both sexes was 12.9 days for malignant neoplasms, 11.1 days for fracture, and 10.6 days for heart disease. Diseases of the heart accounted for nearly 11 percent of all days spent in non-Federal short-stay hospitals and more than 18 percent of all days for persons 65 years of age and over.

Fifteen percent of hospital days for persons under 15 years of age were for pneumonia or fracture in 1975–76. Delivery was the reason for nearly 25 percent of all days spent in hospitals by women 15–44 years of age. Other than deliveries, neuroses and nonpsychotic disorders such as alcoholism or drug dependence accounted for the most hospital care received by persons 15–44 years of age. For persons 45 years of age and over, diseases of the heart and malignant neoplasms accounted for the most hospital utilization.

Hospital utilization decreases as family income increases. In 1975–76, people in families with low incomes were hospitalized more often and, once hospitalized, they remained in the hospital longer than people from families with higher incomes. Several factors may account for this. Poorer people are less likely to have a continuing source of primary care and they are more dependent on episodic care in outpatient departments and emergency rooms. It is therefore likely that, among the poor, conditions that might have been detected and treated earlier are not treated until they become serious and require inpatient care. Hospital personnel also may keep a patient a few days longer when they know that home conditions are not conducive to recovery.

Forty-two percent of the patients discharged from non-Federal short-stay hospitals in 1975 underwent surgery. The average annual number of operations per 1,000 population increased from 76.9 in 1965–66 to 95.6 in 1975–76. Over that 10-year period, the incidence of most operations increased although there was no evidence of change in the prevalence of conditions leading to surgical intervention. The increase in surgery rates may be the result of changed criteria for performing surgery, the introduction of new surgical techniques such as the insertion or replacement of electronic heart devices, improvement of old techniques, or new protocols for medical management. However, there is growing concern that excessive surgery is being performed in this country because there is an oversupply of surgeons and broad availability of third-party payment for such services.

Biopsies were the most frequently performed surgical procedures in non-Federal short-stay hospitals for 1975–76, with an average annual rate of 5.3 per 1,000 persons. Data for 1965–66 are not available, but in 1971 the biopsy rate was 3.7. About two-thirds of all biopsies were performed on women in 1975, with more than half of these biopsies on the breast or internal female genital organs.

For children under 15 years of age, the surgery rate remained about the same during the period from 1965–66 to 1975–76. The most common inpatient operation for this age group in 1975–76 was tonsillectomy, even though the average annual tonsillectomy rate dropped from 16.2 in 1965–66 to 8.5 in 1975–76.

Excluding sex-specific procedures and biopsies, tonsillectomy was the most common inpatient operation for people 15–44 years of age. Although the tonsillectomy rate for males and females was about the same for children under 15 years of age, the rate for females was twice as high as the rate for males for people 15–44 years of age.

Other than biopsies, repair of inguinal hernia, which is performed mainly on men, was the most common inpatient operation for people 45–64 years of age. Cholecystectomy, or removal of gallstones, was the next

most common surgical procedure in this age group. One operation for which the prevalence has increased greatly is cardiac catheterization. There were 0.3 such operations per 1,000 persons 45–64 years of age per year in 1965–66, but this figure rose to 2.8 in 1975–76, reflecting the spread of this relatively new technology.

The surgical rate for persons 65 years of age and over increased 44 percent between 1965–66 and 1975–76. Much of this increase may reflect the availability of Medicare coverage to pay for operations which would not otherwise have been performed. As with the other age groups except for children under 15 years of age, biopsies were the leading surgical procedure for people 65 years of age and over, followed by extraction of lens and reduction of fracture with fixation. The rate of lens extractions rose from 5.8 per 1,000 persons 65 years of age and over per year in 1965–66 to 10.9 in 1975–76. Dilation of urethra also showed a large increase in this age group, from 1.2 in 1965–66 to 3.2 in 1975–76.

About 63 percent of all surgical operations were performed on females in 1975–76. Women in the childbearing years, 15–44 years of age, had surgery at about 2½ times the rate of men the same age. Many of these were sex-specific procedures, such as dilation and curettage of the uterus and hysterectomy. One operation for which the rate has increased considerably in recent years is cesarean section. In 1965, 4.5 percent of all deliveries in non-Federal short-stay hospitals involved cesarean section. By 1976, the percentage had increased to 12.1. Although the prevalence of cesarean sections varied among geographic regions and age groups, the increase was evidenced in every region and for each of the three age groups: under 25 years, 25–29 years, and 30 years and over.

In 1975, hospital utilization data were obtained from household interviews comparing people who had prepaid health insurance group plans, such as those provided by Health Maintenance Organizations (HMO), with those who had fee-for-service plans, such as those provided by Blue Cross. In prepaid group plans, doctors are paid either a salary or capitation payment to provide all covered services, regardless of the type or number of services performed; whereas, in fee-for-service plans, doctors are paid fees specific to the services performed. Individuals under 65 years of age in prepaid group plans had a lower discharge rate from short-stay hospitals and a shorter average length of stay than individuals in fee-for-service plans. Although the prepaid group practice members reported lower use of hospital beds, a higher proportion of them received surgical treatment while they were staying in the hospital. The lower rate of hospital utilization for prepaid plan members, however, was accompanied by higher rates of doctor visits. This pattern reflects the emphasis such plans place on preventive and ambulatory care services as an alternative to hospital services.

Table 100. Discharges and days of care in short-stay hospitals, according to type of service and type of ownership of hospital: United States, 1971 and 1976

(Data are based on reporting by facilities)

Year and type of ownership	All short-stay hospitals	Community hospitals			All other hospitals			
		Total	General	Specialty	Total	General	Psychiatric	Other
1971	Number of discharges							
All ownerships	32,799,191	30,953,670	30,610,180	343,490	1,845,521	1,706,094	101,442	37,985
Government	8,295,494	6,575,649	6,532,964	42,685	1,719,845	1,671,724	39,584	8,537
Federal	1,592,390	—	—	—	1,592,390	1,587,338	—	5,052
State-local	6,703,104	6,575,649	6,532,964	42,685	127,455	84,386	39,584	3,485
Proprietary	2,331,371	2,284,069	2,227,450	56,619	47,302	334	35,036	11,932
Nonprofit	22,172,326	22,093,952	21,849,766	244,186	78,374	34,036	26,822	17,516
Church	6,716,841	6,707,071	6,681,205	25,866	9,770	1,630	6,862	1,278
Other	15,455,485	15,386,881	15,168,561	218,320	68,604	32,406	19,960	16,238
1976								
All ownerships	36,484,250	34,355,320	33,995,018	360,302	2,128,930	1,907,273	173,045	48,612
Government	9,221,563	7,237,819	7,201,752	36,067	1,983,744	1,891,360	76,316	16,068
Federal	1,832,620	—	—	—	1,832,620	1,826,923	—	5,697
State-local	7,388,943	7,237,819	7,201,752	36,067	151,124	64,437	76,316	10,371
Proprietary	3,007,226	2,938,251	2,866,329	71,922	68,975	—	51,037	17,938
Nonprofit	24,255,461	24,179,250	23,926,937	252,313	76,211	15,913	45,692	14,606
Church	6,826,072	6,815,572	6,798,356	17,216	10,500	—	10,500	—
Other	17,429,389	17,363,678	17,128,581	235,097	65,711	15,913	35,192	14,606
1971	Number of days of care							
All ownerships	277,812,813	247,372,505	244,821,038	2,551,467	30,440,308	27,675,261	2,136,257	628,790
Government	82,201,506	53,687,300	53,133,332	553,968	28,514,206	27,500,016	813,252	200,938
Federal	26,943,991	—	—	—	26,943,991	26,826,229	—	117,762
State-local	55,257,515	53,687,300	53,133,332	553,968	1,570,215	673,787	813,252	83,176
Proprietary	16,073,916	15,238,983	15,007,251	231,732	834,933	928	726,607	107,398
Nonprofit	179,537,391	178,446,222	176,680,455	1,765,767	1,091,169	174,317	596,398	320,454
Church	54,042,655	53,847,284	53,672,995	174,289	195,371	5,006	180,167	10,198
Other	125,494,736	124,598,938	123,007,460	1,591,478	895,798	169,311	416,231	310,256
1976								
All ownerships	292,408,068	263,560,214	260,759,568	2,800,646	28,847,854	24,654,339	3,502,088	691,427
Government	80,488,100	54,090,813	53,619,837	470,976	26,397,287	24,591,695	1,519,281	286,311
Federal	24,259,188	—	—	—	24,259,188	24,136,669	—	122,519
State-local	56,228,912	54,090,813	53,619,837	470,976	2,138,099	455,026	1,519,281	163,792
Proprietary	20,740,295	19,503,982	19,153,448	350,534	1,236,313	—	1,058,520	177,793
Nonprofit	191,179,673	189,965,419	187,986,283	1,979,136	1,214,254	62,644	924,287	227,323
Church	53,977,482	53,699,279	53,522,514	176,765	278,203	—	278,203	—
Other	137,202,191	136,266,140	134,463,769	1,802,371	936,051	62,644	646,084	227,323

NOTE: Community hospitals include all non-Federal short-stay hospitals classified by the American Hospital Association to one of the following services: General medical and surgical; obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; other specialty; children's general; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedic; and children's other specialty.

SOURCE: Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 101. Discharges, days of care, and average length of stay in non-Federal short-stay hospitals, according to sex and age: United States, 1965 and 1975

(Data are based on a sample of hospital records)

Sex and age	Discharges		Days of care		Average of length of stay	
	1965	1975	1965	1975	1965	1975
	Number per 1,000 population				Number of days per discharge	
Both sexes[1,2]	151.7	162.8	1,185.6	1,254.9	7.8	7.7
Under 15 years	71.5	71.5	351.5	328.0	4.9	4.6
15–44 years	177.0	155.4	1,042.9	885.1	5.9	5.7
45–64 years	174.3	194.7	1,713.5	1,748.9	9.8	9.0
65 years and over	263.9	359.3	3,446.7	4,165.9	13.1	11.6
Male[2]	121.3	134.0	1,017.9	1,104.4	8.4	8.2
Under 15 years	79.2	78.6	388.6	364.8	4.9	4.6
15–44 years	97.7	92.8	682.4	633.9	7.0	6.8
45–64 years	169.2	188.3	1,688.0	1,699.9	10.0	9.0
65 years and over	276.3	386.9	3,411.2	4,379.0	12.3	11.3
Female[2]	179.8	189.7	1,338.6	1,395.2	7.4	7.4
Under 15 years	63.4	64.1	311.7	289.7	4.9	4.5
15–44 years	249.2	214.6	1,370.6	1,122.1	5.5	5.2
45–64 years	178.4	200.5	1,822.8	1,793.6	9.7	8.9
65 years and over	252.8	339.9	3,452.4	4,016.4	13.7	11.8

[1] 1965 figures include data for which sex was not stated.
[2] 1965 figures include data for which age was not stated.

NOTE: Excludes newborn infants. Rates are based on the civilian noninstitutionalized population.

SOURCE: National Center for Health Statistics: Utilization of short-stay hospitals, annual summary for the United States, 1975, by A. Ranofsky. *Vital and Health Statistics.* Series 13-No. 31. DHEW Pub. No. (HRA) 77–1782. Health Resources Administration. Washington. U.S. Government Printing Office. Apr. 1977.

Table 102. Discharges and days of care in non-Federal short-stay hospitals per 1,000 population, according to sex and age: United States, average annual 1975–76

(Data are based on a sample of hospital records)

Age	Discharges				Days of care			
	Both sexes	Male	Female[1]		Both sexes	Male	Female[1]	
			Including deliveries	Excluding deliveries			Including deliveries	Excluding deliveries
	Number per 1,000 population							
All ages	163.0	134.7	189.4	160.6	1,245.3	1,098.9	1,381.8	1,265.4
Under 1 year	204.9	233.9	174.5	174.5	1,266.0	1,433.5	1,090.6	1,090.6
1–4 years	90.0	101.6	77.8	77.8	367.5	410.7	322.5	322.5
5–9 years	60.5	66.5	54.3	54.3	240.2	259.5	220.1	220.1
10–14 years	48.5	50.2	46.6	44.9	219.0	234.8	202.7	194.9
15–19 years	115.2	74.7	155.3	101.2	564.4	436.2	691.6	477.6
20–24 years	171.2	85.4	250.8	138.7	827.3	553.6	1,081.2	656.8
25–29 years	182.3	88.0	271.0	160.8	950.1	576.7	1,301.3	845.3
30–34 years	157.7	97.2	214.4	160.9	917.8	644.0	1,174.8	942.5
35–39 years	149.4	113.0	182.2	163.4	1,000.7	821.5	1,162.5	1,074.2
40–44 years	158.2	125.5	189.2	183.8	1,148.4	941.8	1,344.1	1,320.3
45–49 years	171.1	147.9	192.7	192.2	1,355.7	1,186.6	1,514.2	1,511.0
50–54 years	183.7	172.1	194.4	194.0	1,550.3	1,489.3	1,606.4	1,604.5
55–59 years	201.8	199.4	204.1	204.1	1,850.3	1,789.6	1,906.5	1,906.5
60–64 years	231.9	254.4	212.6	212.6	2,311.1	2,507.2	2,143.9	2,143.9
65–69 years	280.5	311.5	255.5	255.5	2,981.8	3,314.4	2,714.5	2,714.5
70–74 years	323.9	358.0	299.4	299.4	3,708.0	4,011.8	3,489.1	3,489.1
75–79 years	396.5	429.7	375.1	375.1	4,735.3	5,059.7	4,526.6	4,526.6
80–84 years	480.4	516.4	459.5	459.5	5,793.9	6,095.7	5,619.5	5,619.5
85 years and over	665.1	731.9	631.8	631.8	8,288.2	8,959.0	7,953.9	7,953.9

[1] Rates for females are shown both for all females and for all females not having delivery (ICDA codes 650–662) as first-listed diagnosis.

NOTE: Excludes newborn infants. Rates are based on the civilian noninstitutionalized population.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the Hospital Discharge Survey.

Table 103. Discharges from non-Federal short-stay hospitals per 1,000 population, according to age, sex, leading diagnostic category, and ICDA code: United States, average annual 1975–76

(Data are based on a sample of hospital records)

First-listed diagnosis and ICDA code[1]	Age				
	All ages	Under 15 years	15–44 years	45–64 years	65 years and over
Both sexes	Discharges per 1,000 population				
All diagnoses	163.0	71 4	154.4	195.0	361.3
Diseases of the heart 390–398, 402, 404, 410–414, 420–429	12.8	0.4	2.3	23.7	66.0
Ischemic heart disease 410–414	9.0	*0.1	1.2	17.7	46.3
Malignant neoplasms 140–209	7.6	0.5	2.2	14.5	34.2
Fracture 800–829	5.5	3.6	4.4	5.0	16.2
Delivery 650–662	14.9	0 3	33.8	*0.1	. . .
Neuroses and nonpsychotic disorders 300–309	5.4	0.8	6.5	8.1	6.1
Cerebrovascular disease 430–438	2.9	*0.1	0.2	3.4	20.5
Pneumonia 480–486	3.5	4 5	1.2	3.1	11.5
Psychoses 290–299	1.7	*0.0	2.1	2 1	2.7
Diabetes mellitus 250	2.6	0.4	1.4	4 5	9.3
Arthritis and rheumatism 710–718	2.4	0.2	1.1	4.9	8.7
Cholelithiasis (gallstones) 574	2.2	*0.0	1.8	4.1	5.4
Diseases of arteries, arterioles, capillaries 440–448	1.5	*0.0	0.3	2.2	8.6
Displacement of intervertebral disc 725	1 8	*0 0	2 0	3.5	1.3
Benign neoplasms 210–228	3.4	0.7	3 9	5.4	3.4
Bronchitis, emphysema, asthma 490–493	2 5	2.5	1.0	3.3	6.6
Diseases of central nervous system 320–349	1 6	1 1	1.3	1 9	3.2
Ulcer 531–534	1 9	*0.1	1.4	3.7	5.1
Sprains and strains 840–848	1.9	*0 2	2.6	2 5	1.9
Eye diseases and conditions 360–379	2.8	1.4	0 8	3.5	13.6
Inguinal hernia 550, 552	2 4	1.9	1.4	3 9	4.9
Hyperplasia of prostate 600	1 1	*0.0	*0.0	1.8	7.4
Congenital anomalies 740–759	1 6	3.2	1.2	1.0	0.9
Disorders of menstruation 626	2 8	*0.1	4 2	4.0	0.8
Intercranial injury 850–854	1.7	2.1	2 0	0.9	1.3
Appendicitis 540–543	1.4	1.8	1.8	0.6	*0.4
Lacerations 870–907	1.6	1.1	2.2	1.2	1.3
Gastritis and duodenitis 535	1.4	0.3	1.4	2 0	2.4
Hypertension 400,401,403	1.2	*0.0	0.8	2 6	2.6
Male					
All diagnoses	134.7	78.5	93.4	189.2	387.9
Diseases of the heart 390–398,402,404,410–414,420–429	14.3	0.5	2.9	31.8	73.8
Ischemic heart disease 410–414	10.5	*0.1	1.8	25 0	52.5

Malignant neoplasms	140–209	7.2	0.5	1.5	12.8	43.0
Fracture	800–829	5.9	4.5	6.5	4.9	9.4
Neuroses and nonpsychotic disorders	300–309	5.6	0.7	6.4	9.9	6.7
Cerebrovascular disease	430–438	2.8	*0.1	*0.2	4.1	21.2
Pneumonia	480–486	3.7	5.0	1.2	3.3	13.5
Hyperplasia of prostate	600	2.4	*0.0	*0.0	3.8	18.0
Diseases of arteries, arterioles, capillaries	440–448	1.7	*0.0	0.3	2.9	11.2
Inguinal hernia	550, 552	4.4	3.0	2.5	7.7	10.4
Psychoses	290–299	1.4	*0.1	2.1	1.5	2.3
Displacement of intervertebral disc	725	2.0	*0.0	2.5	3.9	*1.1
Ulcer	531–534	2.3	*0.1	1.7	4.5	7.0
Diabetes mellitus	250	2.1	0.4	1.2	3.8	7.9
Bronchitis, emphysema, asthma	490–493	2.5	3.0	0.7	3.1	8.9
Diseases of central nervous system	320–349	1.5	1.2	1.2	2.0	3.6
Arthritis and rheumatism	710–718	1.9	*0.3	1.0	4.1	6.2
Sprains and strains	840–848	2.0	*0.2	3.0	2.6	1.4
Lacerations	870–907	2.4	1.5	3.5	1.7	1.7
Intercranial injury	850–854	2.3	2.7	2.7	1.1	1.4
Cholelithiasis (gallstones)	574	1.1	*0.0	0.6	2.4	4.3
Eye diseases and conditions	360–379	2.5	1.5	0.8	3.4	11.9
Congenital anomalies	740–759	1.7	3.9	0.9	0.9	*1.1
Female						
All diagnoses		189.4	63.9	212.1	200.3	342.7
Diseases of the heart	390–398,402,404,410–414,420–429	11.3	*0.4	1.7	16.4	60.6
Ischemic heart disease	410–414	7.5	*0.1	0.7	11.1	42.0
Delivery	650–662	28.8	0.6	65.6	*0.2	. . .
Malignant neoplasms	140–209	8.0	0.4	3.0	15.9	28.0
Fracture	800–829	5.2	2.7	2.5	5.1	20.9
Neuroses and nonpsychotic disorders	300–309	5.1	0.8	6.7	6.4	5.7
Cerebrovascular disease	430–438	3.1	*0.1	0.3	2.8	20.0
Arthritis and rheumatism	710–718	2.9	*0.2	1.2	5.5	10.5
Psychoses	290–299	1.9	*0.0	2.2	2.8	3.0
Cholelithiasis (gallstones)	574	3.2	*0.0	3.0	5.6	6.2
Diabetes mellitus	250	3.0	0.4	1.5	5.2	10.4
Benign neoplasms	210–228	5.4	0.8	6.8	8.6	4.0
Pneumonia	480–486	3.3	3.9	1.3	3.0	10.0
Disorders of menstruation	626	5.3	*0.2	8.1	7.6	1.4
Displacement of intervertebral disc	725	1.5	*0.0	1.6	3.1	1.5
Bronchitis, emphysema, asthma	490–493	2.4	2.0	1.4	3.5	5.0
Diseases of arteries, arterioles, capillaries	440–448	1.2	*0.0	0.2	1.6	6.8
Diseases of central nervous system	320–349	1.6	1.0	1.4	1.9	2.9
Sprains and strains	840–848	1.8	*0.1	2.3	2.5	2.3
Eye diseases and conditions	360–379	3.1	1.3	0.8	3.7	14.8
Ulcer	531–534	1.5	*0.1	1.1	2.9	3.8
Congenital anomalies	740–759	1.5	2.5	1.5	1.0	*0.7
Hypertension	400,401,403	1.3	*0.0	0.8	2.9	3.2

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.* Codes 760–771, 773, and 779 are not used in the Hospital Discharge Survey.

NOTE: Rankings are based on number of days of care. Rates are based on the average annual civilian noninstitutionalized population.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the Hospital Discharge Survey.

Table 104. Days of care in non-Federal short-stay hospitals per 1,000 population, according to age, sex, leading diagnostic category, and ICDA code: United States, average annual 1975–76

(Data are based on a sample of hospital records)

First-listed diagnosis and ICDA code[1]		Age				
		All ages	Under 15 years	15–44 years	45–64 years	65 years and over
Both sexes		Days of care per 1,000 population				
All diagnoses		1,245.3	322.1	864.7	1,733.3	4,167.2
Diseases of the heart	390–398, 402, 404, 410–414, 420–429	135.1	3.3	19.1	234.9	755.3
Ischemic heart disease	410–414	97.3	*1 2	11.1	178.7	538.5
Malignant neoplasms	140–209	98.2	4.3	21.4	188.4	477.0
Fracture	800–829	61 2	22 4	37 9	54.2	270.5
Delivery	650–662	60.2	*1.4	136.1	*0.7	. . .
Neuroses and nonpsychotic disorders	300–309	48.4	7.0	56.6	69.4	72.6
Cerebrovascular disease	430–438	38.9	*0.8	2.8	42 5	279.7
Pneumonia	480–486	31 7	26.3	9.4	31.1	141.8
Psychoses	290–299	27.3	*1.4	32.2	36.8	51.2
Diabetes mellitus	250	26.7	*2 7	10.1	48.1	114.2
Arthritis and rheumatism	710–718	26 5	*1 8	9.1	49.2	116.5
Cholelithiasis (gallstones)	574	22 5	*0.2	15.3	40.5	71.5
Diseases of arteries, arterioles, capillaries	440–448	21 1	*0.3	2.7	29.1	135.0
Displacement of intervertebral disc	725	19.9	*0.2	21.9	40.6	18.7
Benign neoplasms	210–228	19.7	*2 5	21.2	34.6	26.1
Bronchitis, emphysema, asthma	490–493	18.2	11.1	6.1	27.8	68.1
Diseases of central nervous system	320–349	17.9	9.7	12.9	22.8	49.2
Ulcer	531–534	17 7	*0 5	9.7	34.5	60.8
Sprains and strains	840–848	14 6	*2.4	18.2	20.2	17.8
Eye diseases and conditions	360–379	13.4	3.6	3.3	17.8	72.1
Inguinal hernia	550, 552	13 1	5.0	6 8	23.5	39.4
Hyperplasia of prostate	600	12 1	*0 1	*0.6	15.4	84.0
Congenital anomalies	740–759	10 4	19 0	6 7	8.6	9.3
Disorders of menstruation	626	10 4	*0.3	15.7	14 9	3.1
Intercranial injury	850–854	9.8	7.3	11 4	8.2	12.5
Appendicitis	540–543	8.6	9.9	9.7	6.3	*4.8
Lacerations	870–907	8.6	4.2	11.1	7.5	10.5
Gastritis and duodenitis	535	8.1	*1 1	7.3	12.4	19.6
Hypertension	400, 401, 403	8 0	*0 4	4.9	18.0	19.9
Male						
All diagnoses		1,098.9	354.7	623.7	1,690.2	4,392.3
Diseases of the heart	390–398, 402, 404, 410–414, 420–429	147.8	*3.0	25.3	315.0	818.9
Ischemic heart disease	410–414	110.8	*0.9	16.9	254.1	587.2

Malignant neoplasms	140–209	93.9	*4.9	15.3	169.3	586.8
Fracture	800–829	56.2	28.3	55.5	49.3	161.5
Neuroses and nonpsychotic disorders	300–309	49.3	7.0	53.3	83.5	78.4
Cerebrovascular disease	430–438	36.8	*0.8	*2.3	51.0	287.7
Pneumonia	480–486	32.3	28.9	8.7	32.2	161.8
Hyperplasia of prostate	600	25.0	*0.2	*1.2	32.3	204.0
Diseases of arteries, arterioles, capillaries	440–448	25.0	*0.3	*3.2	37.0	182.6
Inguinal hernia	550, 552	24.3	8.3	12.3	45.9	83.8
Psychoses	290–299	21.4	*1.7	29.0	22.7	39.3
Displacement of intervertebral disc	725	21.3	*0.3	24.8	44.1	*15.2
Ulcer	531–534	21.1	*0.4	11.6	41.7	84.8
Diabetes mellitus	250	21.1	*2.5	9.1	40.4	92.8
Bronchitis, emphysema, asthma	490–493	18.8	13.9	4.5	25.4	90.6
Diseases of central nervous system	320–349	18.6	10.2	14.0	23.6	55.7
Arthritis and rheumatism	710–718	17.9	*2.1	6.7	37.5	77.1
Sprains and strains	840–848	13.5	*0.9	18.8	19.0	*12.2
Lacerations	870–907	12.4	*5.8	18.3	8.8	*10.7
Intercranial injury	850–854	12.2	8.0	15.6	9.1	*14.8
Cholelithiasis (gallstones)	574	12.0	*0.0	4.6	24.1	57.5
Eye diseases and conditions	360–379	11.4	*4.3	*3.3	17.0	61.1
Congenital anomalies	740–759	11.4	23.7	5.7	*7.3	*12.2
Female						
All diagnoses		1,381.8	288.2	1,092.5	1,772.7	4,009.6
Diseases of the heart	390–398, 402, 404, 410–414, 420–429	123.2	*3.6	13.3	161.9	710.8
Ischemic heart disease	410–414	84.6	*1.5	5.7	110.1	504.5
Delivery	650–662	116.4	*2.9	264.7	*1.3	. . .
Malignant neoplasms	140–209	102.2	*3.8	27.1	205.8	400.2
Fracture	800–829	65.9	16.2	21.3	58.7	346.9
Neuroses and nonpsychotic disorders	300–309	47.5	7.1	59.8	56.6	68.6
Cerebrovascular disease	430–438	40.8	*0.9	*3.3	34.7	274.1
Arthritis and rheumatism	710–718	34.6	*1.4	11.4	59.8	144.1
Psychoses	290–299	32.9	*1.1	35.2	49.6	59.6
Cholelithiasis (gallstones)	574	32.2	*0.3	25.5	55.5	81.3
Diabetes mellitus	250	32.0	*2.9	10.9	55.1	129.1
Benign neoplasms	210–228	31.8	*3.1	36.1	56.1	31.6
Pneumonia	480–486	31.3	23.7	10.1	30.1	127.9
Disorders of menstruation	626	20.0	*0.6	30.6	28.4	*5.3
Displacement of intervertebral disc	725	18.6	*0.2	19.2	37.3	21.1
Bronchitis, emphysema, asthma	490–493	17.7	8.3	7.7	30.0	52.3
Diseases of arteries, arterioles, capillaries	440–448	17.4	*0.3	*2.1	21.9	101.7
Diseases of central nervous system	320–349	17.2	9.2	11.9	22.0	44.6
Sprains and strains	840–848	15.5	*3.9	17.6	21.2	21.8
Eye diseases and conditions	360–379	15.3	*3.0	*3.2	18.5	79.8
Ulcer	531–534	14.5	*0.6	7.9	27.8	43.9
Congenital anomalies	740–759	9.6	14.1	7.6	9.8	*7.4
Hypertension	400, 401, 403	9.5	*0.5	4.9	20.9	25.0

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.* Codes 760–771, 773, and 779 are not used in the Hospital Discharge Survey.

NOTE: Rankings are based on number of days care. Rates are based on the average annual civilian noninstitutionalized population.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the Hospital Discharge Survey.

Table 105. Average length of stay for patients discharged from non-Federal short-stay hospitals, according to age, sex, leading diagnostic category, and ICDA code: United States, average annual 1975–76

(Data are based on a sample of hospital records)

First-listed diagnosis and ICDA code[1]	Age				
	All ages	Under 15 years	15–44 years	45–64 years	65 years and over
Both sexes	Number of days per discharge				
All diagnoses	7.6	4.5	5.6	8.9	11.5
Diseases of the heart 390–398, 402,404, 410–414, 420–429	10 6	8.0	8.4	9.9	11.4
Ischemic heart disease 410–414	10.9	15.8	9.1	10.1	11.6
Malignant neoplasms 140–209	12.9	9.3	9.5	13.0	14.0
Fracture 800–829	11.1	6.2	8.6	10.9	16.7
Delivery 650–662	4.0	4.5	4.0	5.6	. .
Neuroses and nonpsychotic disorders 300–309	9.0	9.0	8.6	8.6	11.9
Cerebrovascular disease 430–438	13.2	10 8	11.4	12.4	13.7
Pneumonia 480–486	9 1	5.9	7 6	9.9	12.4
Psychoses 290–299	16 4	*29.9	15 1	17 2	19.0
Diabetes mellitus 250	10 3	7 0	7.4	10.6	12.2
Arthritis and rheumatism 710–718	10 9	7 6	8.5	10.1	13.4
Cholelithiasis (gallstones) 574	10 2	*9.4	8 4	10.0	13.2
Diseases of arteries, arterioles, capillaries 440–448	14 4	*6 5	9 9	13.2	15.7
Displacement of intervertebral disc 725	11 4	*14.2	10.7	11.7	14.2
Benign neoplasms 210–228	5 9	3.8	5.4	6.4	7.8
Bronchitis, emphysema, asthma 490–493	7 4	4 5	5.9	8 3	10.2
Diseases of central nervous system 320–349	11 4	8.7	10.0	11.8	15.4
Ulcer 531–534	9 3	6 1	7 1	9.4	11 9
Sprains and strains 840–848	7 6	12.9	6 9	8.0	9.3
Eye diseases and conditions 360–379	4 7	2 5	4.2	5.0	5.3
Inguinal hernia 550, 552	5 5	2 7	5.0	6.0	8.1
Hyperplasia of prostate 600	10.5	*10 0	*25.3	8 5	11.3
Congenital anomalies 740–759	6.5	6.0	5.6	9.0	10.6
Disorders of menstruation 626	3 8	*3.4	3.8	3.7	3.9
Intercranial injury 850–854	5.7	3.4	5.7	8.7	9.7
Appendicitis 540–543	6.1	5.6	5.5	10.1	11.2
Lacerations 870–907	5.3	3.9	5.1	6.3	7.8
Gastritis and duodenitis 535	5.9	3.3	5.2	6.3	8 0
Hypertension 400,401,403	7.0	*10.1	6.3	7.0	7 7
Male					
All diagnoses	8.2	4 5	6 7	8 9	11 3
Diseases of the heart 390–398, 402, 404, 410–414, 420–429	10 3	6 3	8.7	9.9	11.1
Ischemic heart disease 410–414	10.5	*11 2	9.2	10.2	11.2

Malignant neoplasms	140–209	13.1	9.4	10.3	13.2	13.6
Fracture	800–829	9.6	6.3	8.5	10.1	17.2
Neuroses and nonpsychotic disorders	300–309	8.8	9.6	8.4	8.5	11.7
Cerebrovascular disease	430–438	13.2	*11.5	11.3	12.5	13.6
Pneumonia	480–486	8.7	5.8	7.2	9.7	12.0
Hyperplasia of prostate	600	10.5	*10.0	*25.3	8.5	11.3
Diseases of arteries, arterioles, capillaries	440–448	14.6	*6.2	11.0	12.8	16.3
Inguinal hernia	550, 552	5.6	2.7	5.0	6.0	8.1
Psychoses	290–299	14.9	*34.2	13.9	15.6	17.3
Displacement of intervertebral disc	725	10.6	*20.5	9.9	11.2	13.9
Ulcer	531–534	9.2	*5.0	7.0	9.2	12.1
Diabetes mellitus	250	10.0	6.6	7.4	10.5	11.8
Bronchitis, emphysema, asthma	490–493	7.4	4.7	6.1	8.1	10.1
Diseases of central nervous system	320–349	12.0	8.6	12.1	12.0	15.6
Arthritis and rheumatism	710–718	9.5	7.7	6.9	9.1	12.5
Sprains and strains	840–848	6.7	*4.2	6.4	7.4	9.0
Lacerations	870–907	5.1	4.0	5.3	5.2	6.5
Intercranial injury	850–854	5.4	3.0	5.7	8.4	10.3
Cholelithiasis (gallstones)	574	10.9	*1.5	8.4	10.3	13.2
Eye diseases and conditions	360–379	4.6	2.8	4.1	5.1	5.1
Congenital anomalies	740–759	6.7	6.1	6.3	8.4	11.1
Female						
All diagnoses		7.3	4.5	5.2	8.9	11.7
Diseases of the heart	390–398, 402, 404, 410–414, 420–429	10.9	10.4	8.0	9.9	11.7
Ischemic heart disease	410–414	11.3	*21.4	8.7	9.9	12.0
Delivery	650–662	4.0	4.5	4.0	5.6	. . .
Malignant neoplasms	140–209	12.8	9.1	9.1	12.9	14.3
Fracture	800–829	12.6	6.1	8.7	11.5	16.6
Neuroses and nonpsychotic disorders	300–309	9.3	8.5	8.9	8.8	12.1
Cerebrovascular disease	430–438	13.3	*10.2	11.4	12.2	13.7
Arthritis and rheumatism	710–718	11.8	7.4	9.8	10.8	13.8
Psychoses	290–299	17.5	*25.0	16.1	18.0	20.0
Cholelithiasis (gallstones)	574	10.0	*10.6	8.4	9.9	13.2
Diabetes mellitus	250	10.6	7.3	7.4	10.7	12.4
Benign neoplasms	210–228	5.9	3.9	5.3	6.5	7.9
Pneumonia	480–486	9.5	6.0	7.9	10.1	12.8
Disorders of menstruation	626	3.8	*3.4	3.8	3.7	3.9
Displacement of intervertebral disc	725	12.3	*9.7	11.8	12.2	14.4
Bronchitis, emphysema, asthma	490–493	7.4	4.2	5.7	8.5	10.4
Diseases of arteries, arterioles, capillaries	440–448	14.0	*6.9	8.7	13.9	14.9
Diseases of central nervous system	320–349	10.7	8.8	8.4	11.7	15.2
Sprains and strains	840–848	8.5	*26.2	7.6	8.6	9.5
Eye diseases and conditions	360–379	4.9	2.3	4.3	5.0	5.4
Ulcer	531–534	9.5	*7.2	7.3	9.7	11.6
Congenital anomalies	740–759	6.3	5.7	5.2	9.6	10.2
Hypertension	400, 401, 403	7.1	*11.5	6.0	7.1	7.8

[1] Diagnostic groupings and code number inclusions are based on the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.* Codes 760–771, 773, and 779 are not used in the Hospital Discharge Survey.

NOTE: Rankings are based on number of days of care.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the Hospital Discharge Survey.

Table 106 Discharges, days of care, and average length of stay in non-Federal short-stay hospitals, according to color, age, and family income: United States, average annual 1975–76

(Data are based on a sample of hospital records and household interviews of a sample of the civilian noninstitutionalized population)

Item and family income	Total					White					All other				
	All ages	Under 15 years	15–44 years	45–64 years	65 years and over	All ages	Under 15 years	15–44 years	45–64 years	65 years and over	All ages	Under 15 years	15–44 years	45–64 years	65 years and over
Discharges	Number per 1,000 population														
All incomes[1]	163	71	154	195	361	164	73	149	195	370	159	61	191	193	271
Less than $5,000	230	96	202	283	382	237	100	182	291	397	210	89	258	260	292
$5,000–$9,999	185	79	187	218	342	192	85	185	221	351	153	59	196	195	214
$10,000–$14,999	155	76	156	190	406	157	79	156	191	405	137	45	162	168	439
$15,000 or more	129	56	125	171	338	130	58	123	172	339	94	30	153	157	*305
Days of care															
All incomes[1]	1,245	322	865	1,733	4,167	1,219	312	808	1,652	4,161	1,418	372	1,232	2,435	4,231
Less than $5,000	2,189	579	1,282	3,191	4,442	2,195	580	1,178	2,901	4,364	2,170	578	1,567	4,084	4,919
$5,000–$9,999	1,419	351	998	2,046	3,888	1,464	378	949	1,994	3,975	1,190	257	1,225	2,407	2,579
$10,000–$14,999	1,064	301	682	1,625	4,658	1,065	309	816	1,633	4,674	1,057	*239	1,122	1,529	*4,364
$15,000 or more	852	210	692	1,304	3,783	842	206	668	1,304	3,725	984	*262	998	1,305	*5,014
Average length of stay	Number of days per discharge														
All incomes[1]	7.6	4.5	5 6	8 9	11.5	7.4	4.3	5 4	8.5	11 2	8.9	6.1	6 5	12.6	15.6
Less than $5,000	9.5	6.0	6 3	11.3	11 6	9.3	5.8	6.5	10.0	11.0	10.3	6.5	6.1	15.7	16.8
$5,000–$9,999	7.7	4.4	5.3	9.4	11.4	7 6	4.4	5 1	9.0	11.3	7.8	4 4	6.3	12.3	12.1
$10,000–$14,999	6 9	4.0	5.4	8.6	11.5	6.8	3.4	5.2	8.5	11 5	7.7	*5.3	6.9	9.1	*9 9
$15,000 or more	6.6	3.8	5.5	7.6	11 2	6 5	3.9	5.4	7.6	11.0	10.5	*8.7	6 5	8.3	*16.4

[1] Includes unknown income.

NOTE: Excludes newborn infants. Rates are based on the civilian noninstitutionalized population.

SOURCES: Division of Health Interview Statistics, National Center for Health Statistics· Data from the Health Interview Survey; Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the Hospital Discharge Survey

Table 107. Operations for inpatients discharged from non-Federal short-stay hospitals and rates, according to leading surgical category and ICDA Seventh and Eighth Revision codes: United States, average annual 1965–66 and 1975–76

(Data are based on a sample of hospital records)

Leading surgical category	ICDA codes[1]		Operations			
	Seventh Revision	Eighth Revision	Number in thousands		Number per 1,000 population	
			1965–66 average	1975–76 average	1965–66 average	1975–76 average
All operations[2]	---	---	14,669	20,063	76.9	95.6
Biopsy	---	A1–A2	---	1,111	---	5.3
Dilation and curettage of uterus	72.8	70.3, 74.7	765	1,069	4.0	5.1
Hysterectomy	[3]72.3–72.6,72.9	69.1–69.5	494	702	2.6	3.3
Tonsillectomy with or without adenoidectomy	27.1–27.2	21.1–21.2	1,193	657	6.3	3.1
Repair of inguinal hernia	40.0–40.1	38.2–38.3	524	528	2.7	2.5
Oophorectomy; salpingo-oophorectomy	70.2–70.5	67.2–67.5	289	462	1.5	2.2
Excision of lesion of skin and subcutaneous tissue	89.1	92.1–92.2	526	458	2.8	2.2
Cholecystectomy	53.5	43.5	356	442	1.9	2.1
Ligation and division of fallopian tubes, bilateral	71.5	68.5	68	394	0.4	1.9
Cesarean section	78.0–78.4	77	168	353	0.9	1.7
Extraction of lens	[3]17.3–17.5	[3]14.4–14.6	159	327	0.8	1.6
Appendectomy[4]	45.1	41.1	374	312	2.0	1.5
Closed reduction of fracture without fixation	[3]82.0	[3]82.0	370	311	1.9	1.5
Reduction of fracture with fixation	[3]82.2	[3]82.2	219	308	1.2	1.5
Dilation and curettage after delivery or abortion	77.1	78.1	301	291	1.6	1.4
Exploratory laparotomy	41.1	39.1	203	282	1.1	1.3
Prostatectomy	66.1–66.3	58.1–58.3	201	268	1.1	1.3
Dilation of urethra	64.5	57.5	110	246	0.6	1.2
Repair of obstetrical laceration	77.2–77.3	78.2–78.3	188	230	1.0	1.1
Myringotomy	---	17.0	---	229	---	1.1
Cardiac catheterization	30.4–30.5	30.2	42	211	0.2	1.0
Partial mastectomy	38.1	65.2	196	209	1.0	1.0
Hemorrhoidectomy	49.3	51.3	274	203	1.4	1.0
Suture of skin or mucous membrane	89.4	92.5	227	187	1.2	0.9
Plastic repair of cystocele and/or rectocele	74.4	71.4	161	183	0.8	0.9
Rhinoplasty and repair of nose	21.4	19.3	66	173	0.3	0.8
Salpingectomy, bilateral	71.2	68.2	40	167	0.2	0.8
Excision of bone, partial	80.2	80.4	121	160	0.6	0.8
Excision of intervertebral cartilage	83.4	86.4	92	158	0.5	0.8
Resection of small intestine or colon	46.2–46.5	47.4–47.6	100	157	0.5	0.7
Excision of semilunar cartilage of knee joint	83.5	86.5	66	153	0.3	0.7

[1] Surgical groupings and code number inclusions are based on the *Seventh Revision* and *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] Includes operations not listed in table.

[3] These codes are modifications of ICDA codes for use in the Hospital Discharge Survey.

[4] Limited to estimated number of appendectomies, excluding those performed incidental to other abdominal surgery.

NOTE: Excludes newborn infants. Rates are based on the civilian noninstitutionalized population.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the Hospital Discharge Survey.

Table 108. Operations per 1,000 population for inpatients discharged from non-Federal short-stay hospitals, according to sex, age group, leading surgical category, and ICDA Seventh and Eighth Revision codes: United States, average annual 1965–66 and 1975–76

(Data are based on a sample of hospital records)

Age group and leading surgical category[1]	ICDA codes[2]		Sex					
			Both sexes		Male		Female	
	Seventh Revision	Eighth Revision	1965–66 average[3]	1975–76 average	1965–66 average	1975–76 average	1965–66 average	1975–76 average
			Operations per 1,000 population					
Under 15 years								
All operations[4]	---	---	41 1	40 7	47.3	46.4	34.5	34.7
Tonsillectomy with or without adenoidectomy	27 1–27.2	21 1–21 2	16 2	8.5	16 3	8.5	16.0	8 6
Myringotomy	---	17.0	---	3 9	---	4 5	---	3.4
Repair of inguinal hernia	40.0–40 1	38 2–38.3	2.3	2 0	4.0	3.4	0.6	0.6
Closed reduction of fracture without fixation	[5]82.0	[5]82.0	2 2	1 9	2.9	2.4	1.5	1.4
Appendectomy[6]	45.1	41 1	2.3	1 8	2.5	2 0	2.1	1.7
Adenoidectomy without tonsillectomy	27 3	21.3	0.6	1 5	0.7	1 7	0.5	1.4
Resection and recession of eye muscle	11 2–11 3	10 5–10.6	1 1	1 0	1 2	1.0	1.1	1.0
Dilation of urethra	64 5	57 5	0.5	0 9	*0 2	*0.3	0.8	1.5
Excision of lesion of skin and subcutaneous tissue	89.1	92 1–92 2	1 0	0 9	1.0	0 9	1.0	0.8
15–44 years								
All operations[4]	---	---	87 1	100 6	54.8	56.9	116.2	141.8
Biopsy	---	A1–A2	---	4 1	---	1 7	---	6 3
Tonsillectomy with or without adenoidectomy	27 1–27 2	21 1–21.2	2 8	2.2	2.3	1.4	3.3	2.9
Excision of lesion of skin and subcutaneous tissue	89 1	92 1–92 2	3.5	1.9	3.6	1.7	3.3	2.2
Appendectomy[6]	45 1	41.1	2.6	1 9	2.7	1 9	2.5	1.9
Cholecystectomy	53.5	43.5	1 7	1.8	0 6	0.5	2.7	3.0
Exploratory laparotomy	41 1	39 1	1 2	1 5	0 7	0.7	1 6	2 1
Repair of inguinal hernia	40.0–40.1	38 2–38.3	1.7	1.4	3 2	2.6	0.4	0 3
Rhinoplasty and repair of nose	21.4	19 3	0 6	1 3	0 6	1.2	0.7	1.4
Surgical removal of teeth	24.2	99.4	1.0	1 3	0.7	0.9	1.3	1.6
Excision of semilunar cartilage of knee joint	83.5	86.5	0 7	1 2	1.1	2 0	*0.2	0.6
Partial mastectomy	38.1	65.2	1 6	1.2	*0.1	*0.1	3.0	2.3
Suture of skin or mucous membrane	89 4	92 5	1 8	1 2	2.9	1.8	0.9	0.6
Closed reduction of fracture without fixation	[5]82.0	[5]82 0	1.5	1 1	2 3	1.6	0.8	0.6

45–64 years								
All operations[4]	---	---	97.9	122.9	82.4	100.8	112.0	143.1
Biopsy	---	A1–A2	---	9.4	---	6.5	---	12.1
Repair of inguinal hernia	40.0–40.1	38.2–38.3	4.4	4.1	8.5	8.0	0.6	0.6
Cholecystectomy	53.5	43.5	4.0	4.0	2.2	2.4	5.6	5.4
Excision of lesion of skin and subcutaneous tissue	89.1	92.1–92.2	3.8	3.4	3.7	3.2	3.9	3.6
Cardiac catheterization	30.4–30.5	30.2	0.3	2.8	*0.3	4.0	*0.3	1.6
Extraction of lens	[5]17.3–17.5	[5]14.4–14.6	1.2	1.9	1.3	2.0	1.2	1.9
Hemorrhoidectomy	49.3	51.3	3.0	1.9	3.4	2.1	2.6	1.7
Partial mastectomy	38.1	65.2	1.6	1.7	*0.1	*0.1	3.0	3.1
Exploratory laparotomy	41.1	39.1	1.5	1.6	1.4	1.3	1.6	1.9
Excision of intervertebral cartilage	83.4	86.4	0.8	1.6	1.0	1.8	0.7	1.3
Dilation of urethra	64.5	57.5	0.7	1.4	0.8	1.2	0.6	1.6
65 years and over								
All operations[4]	---	---	107.5	154.9	119.6	178.9	97.7	138.2
Biopsy	---	A1–A2	---	13.9	---	16.0	---	12.4
Extraction of lens	[5]17.3–17.5	[5]14.4–14.6	5.8	10.9	5.0	9.3	6.4	11.9
Reduction of fracture with fixation	[5]82.2	[5]82.2	5.4	6.8	2.9	3.6	7.4	9.0
Repair of inguinal hernia	40.4–40.1	38.2–38.3	4.7	5.2	9.3	11.2	1.1	1.0
Cholecystectomy	53.5	43.5	4.3	4.7	3.1	4.0	5.3	5.2
Excision of lesion of skin and subcutaneous tissue	89.1	92.1–92.2	3.5	4.0	3.8	4.5	3.2	3.7
Insertion or replacement of electronic heart device	---	30.4–30.5	---	3.7	---	4.6	---	3.0
Resection of small intestine or colon	46.2–46.5	47.4–47.6	2.3	3.4	1.8	3.5	2.6	3.3
Dilation of urethra	64.5	57.5	1.2	3.2	1.9	4.8	*0.6	2.0
Local excision and destruction of lesion of bladder	63.1	56.1–56.2	2.1	3.1	3.4	5.6	*1.0	1.4
Exploratory laparotomy	41.1	39.1	2.2	2.7	1.9	2.6	2.4	2.8
Closed reduction of fracture without fixation	[5]82.0	[5]82.0	2.9	2.5	1.7	1.2	3.9	3.4

[1] Operations applicable to one sex are not listed in this table. See table 109.

[2] Surgical groupings and code number inclusions are based on the *Seventh Revision* and *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[3] Includes data for which sex was not stated.

[4] Includes operations not listed in table, including operations applicable to one sex.

[5] These codes are modifications of ICDA codes for use in the Hospital Discharge Survey.

[6] Limited to estimated number of appendectomies, excluding those performed incidental to other abdominal surgery.

NOTE: Excludes newborn infants. Rates are based on the civilian noninstitutionalized population.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the Hospital Discharge Survey.

Table 109. Operations applicable to one sex per 1,000 population for inpatients discharged from non-Federal short-stay hospitals, according to age, sex, selected surgical category, and ICDA Seventh and Eighth Revision codes: United States, average annual 1965-66 and 1975-76

(Data are based on a sample of hospital records)

Sex and selected surgical category	ICDA codes[1]		Age									
			All ages		Under 15 years		15-44 years		45-64 years		65 years and over	
	Seventh Revision	Eighth Revision	1965-66 average[2]	1975-76 average	1965-66 average	1975-76 average	1965-66 average	1975-76 average	1965-66 average	1975-76 average	1965-66 average	1975-76 average
Operation applicable to males			Operations per 1,000 males									
Prostatectomy	66.1–66.3	58.1–58 3	2.2	2.6	*0.0	*0.0	*0.1	*0.0	*3.0	3.7	18.5	21.4
Operations applicable to females			Operations per 1,000 females									
Dilation and curettage of uterus	72 8	70.3, 74.7	7.8	9.8	*0.1	*0 1	12.9	15.2	11.3	13.3	3.0	3.6
Hysterectomy	72.3–72.6 [3]72.9	69.1–69.5	5.0	6.5	*–	*0.1	7.5	8.9	8.6	10.6	2.9	3.2
Oophorectomy; salpingo-oophorectomy	70.2–70.5	67.2–67.5	2.9	4 2	*0.0	*0.1	4.5	5.3	4.9	8.0	1.4	2.2
Ligation and division of fallopian tubes, bilateral	71 5	68.5	0.7	3.6	*–	*0 0	1.7	8.2	*0.0	*0.3	*–	*0.0
Cesarean section	78.0–78.4	77	1.7	3.3	*–	*0.1	4.3	7.4	*0 0	*0.0	...	...
Dilation and curettage after delivery or abortion	77.1	78.1	3.1	2.7	*0.0	*0.1	7.6	6.1	*0.1	*0.1	...	...
Repair of obstetrical laceration	77.2–77.3	78.2–78.3	1.9	2.1	*0.0	*0.1	4 8	4.8	*0.0	*0 0	*–	*0.0
Plastic repair of cystocele and/or rectocele	74 4	71.4	1.6	1.7	*–	*0.0	1.6	1.5	3.5	3.7	2.8	2.1
Salpingectomy, bilateral	71.2	68.2	0 4	1.5	*0.0	*0.0	0.9	3.4	*0.2	*0.3	*0.0	*0.0

[1] Surgical groupings and code number inclusions are based on the *Seventh Revision* and *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

[2] Includes data for which age was not stated.

[3] The code 72.9 has been added for the Hospital Discharge Survey to include not otherwise specified hysterectomy.

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the Hospital Discharge Survey.

Table 110. Cesarean sections as a percent of deliveries in non-Federal short-stay hospitals, according to geographic region and age: United States, 1965 and 1970-76

(Data are based on a sample of hospital records)

Geographic region and age	Year							
	1965	1970	1971	1972	1973	1974	1975	1976
	Percent of deliveries involving cesarean section							
United States								
All ages	4.5	5.5	5.8	7.0	7.9	9.1	10.4	12.1
Under 25 years	3.3	4.6	4.4	5.6	6.8	7.8	8.9	11.1
25-29 years	4.3	5.9	6.5	7.7	8.1	9.6	11.1	12.3
30 years and over	7.0	7.8	8.9	10.0	11.2	12.1	13.9	14.5
Northeast								
All ages	4.6	6.2	7.4	7.3	9.0	10.8	11.8	14.6
Under 25 years	3.3	4.7	5.7	5.2	7.2	9.7	9.4	13.2
25-29 years	4.3	6.5	7.0	7.8	9.4	10.2	12.4	14.8
30 years and over	6.8	9.0	11.7	10.9	12.7	13.9	16.3	16.9
North Central								
All ages	4.1	4.7	5.2	5.7	7.0	8.3	9.3	10.6
Under 25 years	2.6	4.0	4.0	4.9	5.8	6.8	7.8	10.0
25-29 years	3.9	5.4	6.5	5.5	7.1	9.9	10.1	10.9
30 years and over	7.8	5.5	7.2	8.4	10.1	10.3	13.0	11.6
South								
All ages	3.5	5.8	5.1	7.4	8.0	9.2	10.5	12.1
Under 25 years	2.9	5.0	3.7	5.8	6.9	8.1	9.0	11.6
25-29 years	*3.8	6.4	6.1	9.6	8.7	9.9	12.0	12.1
30 years and over	5.0	7.6	9.0	9.6	11.2	12.7	13.5	14.5
West								
All ages	6.5	5.7	5.6	8.3	8.0	8.1	10.4	11.3
Under 25 years	5.5	4.5	4.9	7.0	7.9	7.1	10.2	9.8
25-29 years	*6.0	*4.7	6.2	8.2	6.8	7.9	9.8	11.7
30 years and over	8.7	10.5	*7.1	12.2	10.2	11.6	12.1	15.0

SOURCE: Division of Health Resources Utilization Statistics, National Center for Health Statistics: Data from the Hospital Discharge Survey.

C. Inpatient Care in Long-Term Facilities

Inpatient long-term care facilities include long-stay psychiatric and other hospitals (i.e., hospitals with an average length of stay of 30 days or more), nursing homes, facilities for the mentally retarded, homes for dependent children, homes or resident schools for the emotionally disturbed, resident facilities for drug abusers or alcoholics, and various other types of institutions. Patients in these facilities need treatment or management of a chronic condition or are too incapacitated to care for themselves.

The Survey of Institutionalized Persons (SIP), conducted by the Census Bureau in 1976, provides data on the utilization of nursing homes and other long-term care institutions, excluding long-stay hospitals and correctional institutions. Although data from this survey are for 1976, the sample for the survey was taken from the 1973 Master Facility Inventory, and facilities newly opened after 1973 were not included. As a result, the SIP estimates are slight undercounts.

Two-thirds of the estimated 1.6 million residents in the institutions surveyed in 1976 were 65 years of age and over. There were more men than women under 65 years of age, but nearly 70 percent of institutionalized people 65 years of age and over were women.

Seventy-nine percent of institutionalized people 65 years of age and over and 68 percent of those 18–64 years of age entered institutions primarily because they needed medical or nursing care. Another 13 percent of people 65 years of age and over and 17 percent of those 18–64 years of age entered because their families were unable to care for them. For residents under 18 years of age, 38 percent entered institutions because they needed medical or nursing care, and 31 percent were admitted because their families were unable to care for them. Another 14 percent of those under 18 years of age were committed or assigned to the institution.

The services needed and received by people in institutions in 1976 varied by age. The need for medical and nursing care rose sharply with age, as did the proportion of those needing these services who received them at least once a month. Psychiatric care and physical therapy were required more by younger people in institutions than by the elderly. However, the proportions of those needing these services who received them were higher among the elderly. The need for educational training and social workers declined with increasing age.

The nursing home is a relatively new institution in the United States. Prior to the 1930's, few nursing homes existed. With the enactment of the Social Security Act in 1935 and the 1965 amendments to the Social Security Act (i.e., Medicare and Medicaid), Federal funds became available for the health care of the elderly and the poor. Today, nursing homes provide most of the long-term inpatient care in the United States. About two-thirds of the beds in long-term facilities are in nursing homes.

According to preliminary data from the National Nursing Home Survey, there were 1,287,400 residents in nursing homes in 1977. This NCHS survey includes data from all types of nursing homes, including domiciliary care homes and personal care homes without nursing, which were excluded from the 1973–74 National Nursing Home Survey. Eighty-five percent of nursing home residents in 1977 were 65 years of age and over.

Seventy-one percent of all residents were women, while only 59 percent of the U.S. population 65 years of age and over in 1977 were women. Since women, on the average, live longer than men, an elderly woman is more likely than an elderly man to be widowed and thus be without the help and companionship a spouse can provide. In 1977, 58 percent of all nursing home residents were widowed. Data on marital status by sex are not available for 1977, but in 1973–74, 73 percent of female residents and 42 percent of male residents were widowed. Another possible reason for the high proportion of women in nursing homes is that

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NOTE: Unless otherwise noted, data are from the ongoing data-collection systems of the National Center for Health Statistics. In many instances the data have been published in the *Vital and Health Statistics* series.

elderly women tend to have lower incomes than elderly men and, as a result, they may be less able to pay for better housing, food, and possibly outside help if they remain at home.

In 1976, there were just under a million discharges from nursing homes. Three-fourths of the patients discharged were alive. However, a breakdown by age shows that about 90 percent of the discharges under 65 years of age were alive, while only 65 percent of the discharges 85 years of age and over were alive.

Thirty-seven percent of the residents in nursing homes in 1977 had diseases of the circulatory system as their primary diagnosis at their last examination; about half of these had arteriosclerosis. Another 22 percent of nursing home residents were diagnosed as having mental disorders and senility without psychosis.

More than half of the residents in nursing homes in 1977 had been in another health facility prior to their admission to the nursing home, and more than half of these had been in general or short-stay hospitals. Sixty-four percent of the residents in nursing homes in 1977 had been in the home for at least a year, and 31 percent had been in for 3 years or more. However, of the patients discharged in 1976, 52 percent had been in the home for less than 3 months. Less than 10 percent of patients discharged from nursing homes in 1976 had been in the home for 3 years or more.

The disparity between the length of time spent in the facility by residents and discharged patients suggests that there are two separate groups of persons who use nursing homes—those admitted for relatively long periods of time because there is little chance for improvement in their chronic problems, and those admitted for relatively short periods of time because they need recuperative care.

Most long-stay hospital care is received in long-stay psychiatric hospitals. More than three-fourths of all inpatient days spent in long-stay hospitals in 1976 were spent in psychiatric hospitals.

The National Institute of Mental Health (NIMH) provides data on inpatient and outpatient use of all types of psychiatric facilities, including short-stay and long-stay psychiatric hospitals, psychiatric units of general hospitals, residential treatment centers, federally-funded community mental health centers, freestanding outpatient clinics, and other mental health facilities.

As a result of the development of community-based programs for the diagnosis, treatment, and rehabilitation of persons with mental disorders, the locus of care for persons with such disorders has shifted from the large State mental hospitals to community-based facilities, particularly outpatient psychiatric services and community mental health centers. In 1955, 1.7 million episodes of care were provided by the facilities that report to NIMH. Of these, 49 percent were provided by State and county mental hospitals, 23 percent by outpatient psychiatric services, and 16 percent by non-Federal general hospital inpatient psychiatric units. By 1975, the number of episodes of care provided by all facilities increased to 6.4 million. Of these, only 9 percent were provided by State and county mental hospitals and 9 percent by non-Federal general hospital inpatient psychiatric units. However, 72 percent were provided by outpatient psychiatric service facilities.

More than a hundred million inpatient days of care were spent in mental health facilities in 1975, but this was 50 million less than in 1971. Seventy-eight percent of the inpatient days in 1971 and 67 percent of the days in 1975 were spent in State and county mental hospitals. Less than 8 percent of the inpatient days in all mental health facilities in 1971 were spent in the psychiatric units of general hospitals, but this figure increased to more than 12 percent in 1975.

Although the number of inpatient days in mental health facilities decreased between 1971 and 1975, the number of inpatient additions (new admissions, readmissions, or people who return from leave) increased 19 percent. This reflects the decreasing average length of stay for psychiatric inpatients. Most of the increase in inpatient additions was accounted for by a 211-percent increase in inpatient additions to federally-funded community mental health centers and freestanding outpatient clinics.

Facilities for the mentally retarded had about 163,000 residents in 1976, a decrease of nearly 40,000 from 1971. Although the admission rate has remained relatively stable since 1946, the net release rate of the resident patient population in mental retardation facilities began to rise in the late 1960's and has continued to increase. The introduction of new methods of treatment and management during this period and policies of deinstitutionalization contributed to this trend.

Despite the trend in mental health care away from institutionalization and toward outpatient psychiatric care, increased need for long-term health care can be expected over the next few years as the number of elderly people in the United States increases. Planning for appropriate care and the means to pay for it are of high priority. Providing alternative arrangements for care on a noninstitutionalized basis is also of considerable concern.

Table 111. Institutionalized population, according to age, color, and sex: United States, 1976
(Data are based on resident records in a sample survey of institutions)

Color and sex	Institutionalized population							
	All ages[1]	Under 18 years	18–64 years	65 years and over	All ages[1]	Under 18 years	18–64 years	65 years and over
	Number of persons				Persons per 1,000 resident population			
Total[2,3]	1,550,100	151,530	334,120	1,027,850	7.2	2.3	2.6	44.8
Male[2]	596,820	85,410	182,420	322,530	5.7	2.6	2.9	34.4
Female[2]	947,880	64,750	151,250	703,150	8.6	2.0	2.3	51.8
White[3]	1,410,020	115,350	292,750	970,070	7.6	2.1	2.6	46.6
Male	524,850	63,580	158,210	299,040	5.8	2.3	2.9	35.4
Female	885,170	51,760	134,540	671,030	9.3	1.9	2.4	54.2
All other[3]	134,670	34,810	40,920	55,610	4.7	3.2	2.6	26.4
Male	71,970	21,820	24,210	23,490	5.3	4.0	3.3	25.9
Female	62,710	12,990	16,710	32,120	4.2	2.4	2.0	26.8

[1] Includes unknown age.
[2] Includes unknown color.
[3] Includes unknown sex.

NOTE: Excludes persons in long-stay hospitals and penal and/or juvenile detention facilities.

SOURCE: U.S. Bureau of the Census: *Current Population Reports.* Series P-23, No. 69. Washington. U.S. Government Printing Office, June 1978.

Table 112. Institutionalized population, according to age and primary reason for admission to facility for institutional care: United States, 1976

(Data are based on resident records or reporting by staff in a sample survey of institutions)

Population and primary reason for admission	Age			
	All ages[1]	Under 18 years	18-64 years	65 years and over
	Number of persons			
Institutionalized population[2]	1,550,100	151,530	334,120	1,027,850
	Percent distribution			
All admissions[2]	100.0	100.0	100.0	100.0
Needed medical or nursing care	72.3	37.9	68.5	79.0
No money or resources to keep person at home	0.6	1.1	1.0	0.5
Committed or assigned to facility	2.6	14.4	4.5	0.3
Family unable to care for person	15.5	30.6	16.7	12.7
Education and training	1.2	8.4	1.9	0.0
Other reasons	6.3	7.0	5.3	6.5

[1] Includes unknown age.

[2] Includes residents for which reason for admission is unknown.

NOTE: Excludes persons in long-stay hospitals and penal and/or juvenile detention facilities.

SOURCE: U.S. Bureau of the Census: *Current Population Reports.* Series P-23, No. 69. Washington. U.S. Government Printing Office, June 1978.

Table 113. Services needed and received by the institutionalized population, according to age and type of service· United States, 1976

(Data are based on reporting by staff in a sample survey of institutions)

Type of service	Age							
	All ages[1]		Under 18 years		18–64 years		65 years and over	
	Percent of population needing specified services	Percent of those needing services who are receiving them[2]	Percent of population needing specified services	Percent of those needing services who are receiving them[2]	Percent of population needing specified services	Percent of those needing services who are receiving them[2]	Percent of population needing specified services	Percent of those needing services who are receiving them[2]
Medical	75.2	73.9	49.7	57.9	70.6	65.1	80.2	77.6
Nursing	81.0	99.7	44.8	94.7	68 7	98.6	90.6	99.7
Psychiatric	10.4	70.9	32.3	68.9	24.8	66.9	2.5	86.4
Physical/speech therapy	19.6	74.1	30 1	75.4	23.4	61.3	17.1	79.7
Occupational therapy	15.2	82 4	14.1	70.2	18.8	74.0	14.4	87.5
Educational training	12.7	95.0	76.7	98.4	21.6	90.9	0 5	82.0
Social work	40.4	71.7	60.3	80 8	50.1	67 8	34.4	71.0
Other services	37.4	93 5	41.0	94.6	43 7	93.2	35.6	93.6

[1] Includes unknown age.

[2] Receiving services at least once a month.

NOTE: See table 111 for number of institutionalized persons. Excludes persons in long-stay hospitals and penal and/or juvenile detention facilities.

SOURCE: U.S. Bureau of the Census: *Current Population Reports.* Series P–23, No. 69. Washington. U.S. Government Printing Office, June 1978.

Table 114. Nursing home residents for 1977 and nursing home discharges and percent discharged alive for 1976, according to age, sex, color, and marital status: United States

(Data are based on resident records in a sample survey of nursing homes)

Age, sex, color, and marital status	1977 residents		1976 discharges	
	Number	Percent distribution	Number	Percent discharged alive
Total	1,287,400	100.0	973,100	74.2
Age				
Under 65 years	189,500	14.7	135,400	89.9
65–74 years	202,000	15.7	161,200	73.4
75–84 years	470,600	36.6	381,800	75.9
85 years and over	425,300	33.0	294,700	65.3
Sex				
Male	369,400	28.7	349,700	74.8
Female	918,000	71.3	623,400	73.9
Color				
White[1]	1,180,300	91.7	---	---
All other	107,100	8.3	---	---
Marital status[2]				
Married	160,800	12.5	192,100	80.1
Widowed	743,700	57.8	552,300	71.8
Divorced or separated	87,600	6.8	84,700	86.2
Never married	265,900	20.7	106,300	69.4
Unknown	*29,400	*2.3	37,700	*65.8

[1] Excludes Spanish-American (Hispanic).

[2] For resident data, marital status at time of data collection. For discharge data, marital status at time of discharge.

NOTE: Data are provisional.

SOURCE: National Center for Health Statistics: Comparison of nursing home residents and discharges, 1977 National Nursing Home Survey, by E. Hing and A. Zappolo. *Advance Data from Vital and Health Statistics,* No. 29. DHEW Pub. No. (PHS) 78–1250. Public Health Service, Hyattsville, Md., May 1978.

Table 115. Nursing home residents for 1977 and nursing home discharges for 1976, according to selected characteristics: United States

(Data are based on resident records and information from a caregiver in a sample survey of nursing homes)

Selected characteristic	Number	Percent distribution
RESIDENTS, 1977		
Total	1,287,400	100.0
Primary diagnosis at last examination		
Diseases of the circulatory system	477,400	37.1
Congestive heart failure	57,100	4.4
Arteriosclerosis	235,600	18.3
Hypertension	45,300	3.5
Stroke	102,300	7.9
Mental disorders and senility without psychosis	287,600	22.3
Psychosis, including senile	85,000	6.6
Chronic brain syndrome	91,600	7.1
Mental retardation	59,500	4.6
Other or unknown diagnoses	522,400	40.6
Diabetes	77,200	6.0
Fractures	40,900	3.2
Diseases of the nervous system	60,700	4.7
Arthritis or rheumatism	57,100	4.4
Living arrangement prior to admission		
Private or semiprivate residence	529,100	41.1
With others	325,000	25.2
Another health facility[1]	694,800	54.0
Another nursing home	164,600	12.8
General or short-stay hospital	405,700	31.5
Mental hospital	80,000	6.2
Unknown or other arrangement	63,500	4.9
Length of stay[2]		
Less than 3 months	167,000	13.0
3 to less than 6 months	126,000	9.8
6 to less than 12 months	175,400	13.6
1 to less than 3 years	416,200	32.3
3 years or more	402,800	31.3
DISCHARGES, 1976		
Total	973,100	100.0
Length of stay		
Less than 3 months	504,400	51.8
3 to less than 6 months	116,800	12.0
6 to less than 12 months	110,300	11.3
1 to less than 3 years	148,200	15.2
3 years or more	93,400	9.6

[1] 347,300 of these residents, admitted from another health facility, had gone to that facility from a private or semiprivate residence.

[2] For residents in 1977, time interval between admission date for each resident and survey date.

NOTE: Data are provisional.

SOURCE: National Center for Health Statistics: Comparison of nursing home residents and discharges, 1977 National Nursing Home Survey, by E. Hing and A. Zappolo. *Advance Data from Vital and Health Statistics,* No. 29. DHEW Pub. No. (PHS) 78–1250. Public Health Service, Hyattsville, Md., May 17, 1978.

Table 116. Inpatient days of care in mental health facilities, percent distribution, and percent change, according to type of facility: United States, 1971, 1973, and 1975

(Data are based on reporting by facilities)

Type of facility	Year						Percent change in number of inpatient days 1971–75
	1971	1973	1975	1971	1973	1975	
	Number of inpatient days			Percent distribution of inpatient days			
All facilities	153,104,652	125,905,826	104,907,588	100.0	100.0	100.0	−31.5
Psychiatric hospitals	132,784,052	104,648,113	82,008,596	86.6	83.1	78.1	−38.2
State and county hospitals	119,200,126	92,210,109	70,584,014	77.7	73.2	67.2	−40.8
Private hospitals	4,220,216	4,107,499	4,400,522	2.8	3.3	4.2	4.3
Veterans Administration hospitals	9,363,710	8,330,505	7,024,060	6.1	6.6	6.7	−25.0
General hospital psychiatric units	11,739,459	11,644,157	13,050,414	7.7	9.2	12.4	11.2
Veterans Administration hospitals	4,913,199	4,653,904	4,701,002	3.2	3.7	4.5	−4.3
Other	6,826,260	6,990,253	8,349,412	4.5	5.6	8.0	22.3
Residential treatment centers	6,355,745	6,337,926	5,900,112	4.2	5.0	5.6	−7.2
Community mental health centers	2,225,396	3,275,630	3,948,466	1.5	2.6	3.8	77.4

SOURCE: National Institute of Mental Health: Unpublished data from the Division of Biometry and Epidemiology.

Table 117. Inpatient and outpatient care episodes in selected mental health facilities, rates, and percent distribution, according to type of facility: United States, 1955, 1965, 1971, and 1975

(Data are based on reporting by facilities)

Item and year	Total	Inpatient psychiatric service						Outpatient psychiatric service		
		All facilities	State and county mental hospitals	Private mental hospitals[1]	Non-Federal general hospitals	Veterans Administration hospitals	Federally-funded community mental health centers	All facilities	Federally-funded community mental health centers	Other[2]
Patient care episodes	Number									
1955	1,675,352	1,296,352	818,832	123,231	265,934	88,355	–	379,000	–	379,000
1965	2,636,525	1,565,525	804,926	125,428	519,328	115,843	–	1,071,000	–	1,071,000
1971	4,038,143	1,721,389	745,259	126,600	542,642	176,800	130,088	2,316,754	622,906	1,693,848
1975[3]	6,409,447	1,791,171	598,993	165,327	565,696	214,264	246,891	4,618,276	1,584,968	3,033,308
Patient care episode rates	Number per 100,000 population									
1955	1,028	795	502	76	163	54	–	233	–	233
1965	1,376	817	420	65	271	60	–	559	–	559
1971	1,977	843	365	62	266	87	64	1,134	305	829
1975[3]	3,033	847	283	78	268	101	117	2,185	750	1,435
Patient care episode distribution	Percent of all episodes									
1955	100 0	77 4	48 9	7.3	15 9	5.3	–	22.6	–	22.6
1965	100 0	59.4	30 5	4.8	19.7	4.4	–	40.6	–	40.6
1971	100 0	42.6	18 5	3 1	13 4	4 4	3.2	57.4	15.4	42.0
1975[3]	100.0	27 9	9 3	2 6	8 8	3 3	3 9	72.1	24.7	47 4

[1] Includes estimates of episodes of care in residential treatment centers for emotionally disturbed children

[2] Includes freestanding outpatient clinics, non-Federal psychiatric hospitals, psychiatric units of non-Federal general hospitals, residential treatment centers for emotionally disturbed children, and other mental health facilities

[3] Provisional data.

NOTE. This table excludes private psychiatric office practice; psychiatric service modes of all types in hospitals or outpatient clinics of Federal agencies other than the Veterans Administration; inpatient service modes of multiservice facilities not shown in this table, all partial care episodes; and outpatient episodes of Veterans Administration hospitals.

SOURCES: National Institute of Mental Health: Utilization of mental health facilities, 1971 *Mental Health Statistics.* Series B-No. 5 DHEW Pub No. (NIH)74-657. Washington. U S Government Printing Office, 1973; National Institute of Mental Health Unpublished data from the Division of Biometry and Epidemiology

Table 118. Additions to mental health facilities and percent change, according to service mode and type of facility: United States, 1971 and 1975

(Data are based on reporting by facilities)

Type of facility	Service mode								
	Inpatient			Outpatient			Day treatment		
	1971	1975	Percent change 1971-75	1971	1975	Percent change 1971-75	1971	1975	Percent change 1971-75
	Number of additions			Number of additions			Number of additions		
All facilities	1,269,029	1,506,856	18.7	1,378,822	2,381,646	72.7	75,545	167,567	121.8
Non-Federal psychiatric hospitals	494,640	508,936	2.9	147,383	197,520	34.0	18,448	17,370	−5.8
State and county hospitals	407,640	383,407	−5.9	129,133	164,613	27.5	16,554	14,205	−14.2
Private hospitals	87,000	125,529	44.3	18,250	32,907	80.3	1,894	3,165	67.1
Veterans Administration hospitals[1]	134,065	180,701	34.8	51,645	95,370	84.7	4,023	12,029	199.0
Non-Federal general hospital psychiatric units	519,926	543,731	4.6	282,677	263,435	−6.8	11,563	14,216	22.9
Government hospital psychiatric units	215,158	141,024	−34.5	139,077	127,461	−8.4	4,291	3,299	−23.1
Private hospital psychiatric units	304,768	402,707	32.1	143,600	135,974	−5.3	7,272	10,917	50.1
Residential treatment centers for emotionally disturbed children	11,148	12,022	7.8	10,156	19,784	94.8	994	3,431	245.2
Federally-funded community mental health centers	75,900	236,226	211.2	335,648	784,638	133.8	21,092	94,092	346.1
Freestanding outpatient clinics	–	–	–	484,677	933,748	92.7	10,642	21,928	106.1
Government	–	–	–	273,358	447,453	63.7	7,737	8,941	15.6
Private	–	–	–	211,319	486,295	130.1	2,905	12,987	337.1
Other mental health facilities	33,350	25,240	−24.3	66,636	87,151	30.8	8,783	4,501	−48.8

[1] Includes Veterans Administration neuropsychiatric hospitals and Veterans Administration general hospitals with separate psychiatric modalities.

SOURCE: National Institute of Mental Health: Unpublished data from the Division of Biometry and Epidemiology.

SECTION III

Health Care Resources[a]

A. Health Manpower

Between 1970 and 1977, the number of people employed in the health care industry expanded 50 percent, from 4.2 million to 6.3 million.[1] Since the number of employed people in the total economy increased from approximately 76.6 million to 90.5 million[2] or by only 18.3 percent in the same period, the health care industry employment expanded at more than 2.5 times the rate of growth of all employed persons. This rapid growth of a significant employment sector of the economy meant that 1 out of every 7 new jobs created between 1970 and 1977 or approximately 15 percent were in the health industry.

The annual rate of growth in the number of active physicians in the United States and its territories remained almost constant at about 2 percent during the 1950's and 1960's. Between 1970 and 1976, however, the annual growth rate increased to 3 percent. This rate of growth is expected to remain fairly stable through the 1980's.

A large portion of the increase in physicians resulted from efforts begun in the late 1960's to expand the physician supply, based on the prevailing belief that a physician manpower shortage existed. As a result of these efforts, medical school enrollments and the immigration of foreign medical graduates to practice in the United States increased. The latter upward trend is likely to reverse, however, since recent health manpower legislation (Public Law 94–484) has tightened restrictions on the entry of foreign medical graduates.

Since the population has been increasing at a slower rate than the supply of physicians, there has been an increase in the ratio of active physicians to population. Between 1960 and 1970, the ratio increased 10 percent to 15.4 per 10,000 population. Between 1970 and 1980, the ratio is expected to increase 30 percent to 20.0 per 10,000 population.

An increase in the physician-population ratio also occurred internationally. Twelve selected industrialized countries showed the same upward trend evident in the United States. Annual percent changes in the physician-population ratios from 1970 to the most recent year of available data ranged from 5 percent in Switzerland, the Netherlands, Sweden, and Israel to 2 percent in France and England and Wales and 1 percent in Japan.

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[a] Prepared by Joseph Gfroerer and Cecilia A. Young, Division of Analysis, National Center For Health Statistics.

[1] These data exclude people working in health-related occupations who were not employed in the health care industry (as defined by the Bureau of the Census), including pharmacists in drug stores, school nurses, medical school faculty, etc. In 1977, approximately 560,000 people (or an additional 9 percent) were included in these categories.

[2] U.S. Bureau of Census: 1970 Census of population, occupation by industry. *Subject Reports.* Final Report PC (2)-7C. Washington. U.S. Government Printing Office, Oct. 1972. p. 241; Bureau of Labor Statistics, U.S. Department of Labor: *Employment and Earnings, January 1978.* Vol. 25, No. 1. Washington. U.S. Government Printing Office, Jan. 1978. p. 160.

According to the American Medical Association (AMA), the number of physicians in the United States increased by 23 percent, from 328,020 in 1970 to 404,338 in 1976. However, the number of active physicians increased by only 13 percent. One reason for this discrepancy may be that the physicians categorized as "not classified," a group that increased from 357 in 1970 to 29,681 in 1976, may include interns and residents who although active in the profession are excluded from the active physician estimates by type of practice and specialty because they are "not classified" physicians. As a result, the actual number of active physicians may be underestimated.

By practice setting, the number of active non-Federal physicians providing patient care in office-based settings increased 14 percent to 213,117 from 1970 to 1976, while those in hospital-based settings increased 21 percent to 79,035.

Trends according to specialty show that the proportion of active physicians in primary care, excluding obstetrics and gynecology, remained nearly constant (i.e., 38 percent in 1970 and 39 percent in 1976) despite an overall increase of 18,546 active primary care physicians. Changes in the number of primary care specialists from 1970 to 1976 varied according to specialty. There was a 39-percent increase in the number of physicians in internal medicine, a 26-percent increase in pediatrics, and a 4-percent decrease in general practice. Since the data do not distinguish between general practice and family practice, however, the decrease in general practice may mask the growth in family practice that has resulted, in part, from considerable Federal and State backing of the family practice concept since its inception in 1969.[3]

The proportion of active physicians in other surgical, medical, and specialty groups also remained nearly constant from 1970 to 1976. These other specialty groups experienced varied growth rates as well. There was a 15-percent increase in surgery, including obstetrics and gynecology, a 9-percent increase in the medical specialty group, and a 7-percent increase in the other specialties.

Projections by specialty indicate that from 1980 to 1990 there will be a 46-percent increase in the number of physicians in primary care, a 39-percent increase in other medical specialties, and 18-percent increases both in surgical specialties and other specialties.

There is considerable geographic variation in the supply of physicians relative to population. For the United States, the number of active non-Federal physicians per 10,000 population was 16.2 in 1976, but by geographic region this ratio ranged from 20.6 in the Northeast to 13.8 in the South.

Furthermore, in 1976, metropolitan areas had larger physician-population ratios than nonmetropolitan areas (19.3 versus 8.0). There was a similar differential in 1972 (17.2 versus 7.3). Within the metropolitan counties in 1972 and 1976, the largest standard metropolitan statistical areas (SMSA's) had the largest ratios. Outside SMSA's, the most urbanized counties had the largest ratios, although nonmetropolitan counties adjacent to SMSA's had smaller ratios than those not adjacent. These patterns were evident in each region with few exceptions.

In evaluating the variation of the physician-population ratios among nonmetropolitan areas, the population base that was used (in this case, the resident population) should be kept in mind. It is believed that residents of nonmetropolitan areas adjacent to metropolitan areas may not receive their medical care from local physicians.

Federal concern about the maldistribution of physicians and other health manpower is reflected in legislation and in a number of programs designed to provide incentives for establishing practices in shortage areas. For example, 519 areas of the United States were officially designated as Primary Medical Care Manpower Shortage Areas as of May 31, 1978. The population of these areas was 12.3 million, or approximately 6 percent of the United States population. Also, 183 areas were officially designated as Dental Care Manpower Shortage Areas as of May 31,

[3]Bureau of Health Manpower: Supply and distribution of physicians and physician extenders. *Graduate Medical Education National Advisory Committee Staff Papers.* DHEW Pub. No. (HRA) 78-11. Health Resources Administration. Hyattsville, Md., 1978. p. 10.

1978. The population of these areas was 2 percent of the United States population. Medical and dental students who agree to practice in these areas for a period of time are eligible for scholarships and loan forgiveness programs.

Most physicians are in individual practice. However, group medical practice is currently being advanced as a possible approach to improving the distribution of medical services. Some researchers and policymakers have suggested that creation of groups in rural areas, or expansion of existing groups, would attract physicians and help alleviate the relative physician manpower shortage in these areas.[4]

Findings from surveys conducted by the AMA's Center for Health Service Research and Development to determine the growth of group medical practices and describe important organizational characteristics of medical groups indicate that almost a quarter (24 percent) of active non-Federal physicians in the United States practiced in medical groups in 1975 compared with 18 percent in 1969. The annual growth rate of medical groups was 5 percent, and the annual growth rate of physicians practicing in medical groups was 9 percent between 1969 and 1975.

Comparison of medical groups by geographic regions shows that in 1975 the West North Central Division had the highest percent of active non-Federal physicians in group practices (39.4), while the Middle Atlantic had the lowest (14.3). New England had the greatest growth rates of both group practices and group physicians between 1969 and 1975. The average number of group physicians per group practice was highest in the Pacific Division (10.5) in 1975.

For medical personnel other than physicians there is also considerable geographic variation in manpower supply relative to population. For instance, the Northeast had the highest health profession ratios (number of health personnel per 10,000 population) for registered nurses in 1972, licensed dentists in 1974, and licensed dental hygienists in 1974. The South had the highest licensed practical nurse population ratio in 1974, but the lowest registered nurse, licensed dentist, and licensed dental hygienist population ratios. The West had the lowest licensed practical nurse population ratio, although it is not appreciably different from the other regions.

Within SMSA's, the licensed dentist and the licensed dental hygienist population ratios increased with increasing SMSA size, whereas the licensed practical nurse population ratio decreased with increasing SMSA size, and the registered nurse population ratio was slightly larger in medium size SMSA's than in other size SMSA's. Dentist and dental hygienist ratios in suburban counties of large SMSA's were slightly larger than those in the core counties. The pattern is reversed for the registered nurse and licensed practical nurse population ratios. Outside SMSA's, these health profession population ratios increased as urbanization increased.

Recent data on health personnel distribution from 13 selected industrialized countries show that the United States ranked sixth in physician-population ratios, fourth in dentist-population ratios, third in nurse-population ratios, and second in assistant nurse-population ratios.

A number of difficulties are involved in interpreting the medical personnel data and how they relate to patient care. One major problem is the effect that differing productivity among medical personnel has on the quantity and quality of patient care. The available data do not measure the extent to which productivity varies by regional differences in health status levels, sociodemographic compositions, economic activities, and cultural characteristics.

Additionally, the data do not indicate whether an "active" physician is devoting 10 or 50 hours per week to patient care or how many patients a physician actually cares for in a given week. Face-to-face contact time and the number of patients seen may vary by patient characteristics, by metropolitan and nonmetropolitan locations of the medical practice, or by the organizational structure of the medical practice.

There are also different regional levels of physician utilization of allied medical personnel. For example, according to the AMA,

[4]Eisenberg, B., Cartwell, J.: Policies to influence the spatial distribution of physicians, A conceptual review of selected programs and empirical evidence. *Medical Care* 14:455–468, 1976.

primary care physicians in the South were the heaviest utilizers of allied medical personnel, especially nurses, even though the South had the lowest physician-population ratios.

Employment differences such as movement in and out of the labor force and part-time work may also affect productivity among medical personnel. This problem is especially serious in measuring the distribution of nurses. The distribution of medical personnel is also affected by different licensure laws among the States. For example, there may be a low supply of dental hygienists in Utah because their duties are assumed by unlicensed assistants.

Lastly, there are problems in evaluating international data, since there are no internationally accepted terms for designating the different health professions by standard definitions, and the level of general education and professional training received by health personnel varies from country to country.

Table 119 Persons employed in the health service industry, according to place of employment: United States, 1970-77

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Place of employment	Year							
	1970	1971	1972	1973	1974	1975	1976	1977
	Number of employed persons in thousands							
Total	4,246	4,741	5,043	5,303	5,554	5,865	6,122	6,328
Offices of physicians	477	559	602	612	595	607	641	677
Offices of dentists	222	243	277	295	292	327	325	321
Offices of chiropractors	19	21	26	27	28	30	27	29
Hospitals	2,690	2,906	3,026	3,148	3,269	3,394	3,568	3,645
Convalescent institutions	509	609	682	730	798	884	945	949
Offices of other health practitioners	42	43	46	58	65	60	68	75
Other health service sites	288	360	384	433	507	563	548	632

NOTE: Totals exclude persons in health-related occupations but who are working in nonhealth industries (as classified by the Bureau of the Census) such as pharmacists employed in drug-stores, school nurses, nurses working in private households, etc.

SOURCES: U.S. Bureau of Census: 1970 Census of population, occupation by industry. *Subject Reports.* Final Report PC(2)-7C. Washington. U.S. Government Printing Office, Oct. 1972, p. 473; U.S. Department of Labor: Bureau of Labor Statistics, *Employment and Earnings, March 1977* and *January 1978.* Vol. 24, No. 3 and Vol. 25, No. 1. Washington. U.S. Government Printing Office, Mar. 1977, p. 10, and Jan. 1978, p. 161; U.S. Department of Labor: Unpublished data from the Bureau of Labor Statistics.

Table 120. Active physician (M.D.'s and D.O.'s) estimates and projections, according to type of physician and number per 10,000 population: United States and outlying U.S. areas, selected 1960-76 estimates and 1980-90 projections

(Data are based on reporting by physicians and medical schools)

Year	Type of physician			Active physicians per 10,000 population
	Total	Doctors of medicine (M.D.)	Doctors of osteopathy (D.O.)	
	Number of physicians			
1960	259,500	247,300	12,200	14.0
1970	323,200	311,200	12,000	15.4
1971	334,100	322,000	12,100	15.8
1972	345,000	332,400	12,600	16.2
1973	350,100	337,000	13,100	16.3
1974	362,500	348,900	13,600	16.8
1975	378,600	364,500	14,100	17.4
1976	390,600	376,100	14,500	17.8
1980	444,000	426,300	17,700	20.0
1985	519,000	495,700	23,300	22.1
1990	594,000	564,200	29,800	24.2

NOTES: The Bureau of Health Manpower estimation and projection methods were used. Population for selected years 1950-76 includes civilians in the 50 States, District of Columbia, Puerto Rico, and other U.S. outlying areas; U.S. citizens in foreign countries; and the Armed Forces in the United States and abroad. For years 1980-90, the Series II projections of the total population from the U.S. Bureau of the Census were used.

SOURCES: Bureau of Health Manpower, Health Resources Administration: Data from Manpower Analysis Branch; U.S. Bureau of the Census: *Current Population Reports.* Series P-25, Nos. 336, 361, 392, 417, 436, 442, 462, 478, 495, 516, 600, 601, 603, 634, and 703. Washington, U.S. Government Printing Office, 1966-77.

Table 121. Active physician (M.D.) estimates and projections, according to primary specialty: United States and outlying U.S. areas, 1974-75 estimates and selected 1980-90 projections

(Data are based on reporting by physicians and medical schools)

Primary specialty	Year				
	1974	1975	1980	1985	1990
	Number of estimated or projected active physicians				
Active physicians	348,960	364,480	428,360	493,830	559,820
Primary care[1]	133,590	139,930	176,440	216,760	257,730
Other medical specialties	18,480	20,360	24,240	28,880	33,610
Surgical specialties	98,670	102,840	111,610	121,640	131,300
Other specialties	98,230	101,350	116,090	126,570	137,190

[1] Includes general practice, family practice, internal medicine, and pediatrics.

NOTE: The Bureau of Health Manpower, Health Resources Administration, estimation and projection methods were used.

SOURCE: Bureau of Health Manpower: Supply and distribution of physicians and physician extenders. *Graduate Medical Education National Advisory Committee Staff Papers.* DHEW Pub. No. (HRA)78-11. Health Resources Administration. Hyattsville, Md., 1978. p. 67.

Table 122. Full-time students in health professions schools, according to profession and academic year: United States, 1971-78

(Data are based on reporting by health professions schools)

Academic year	Profession					
	Medicine	Osteopathy	Dentistry	Pharmacy	Optometry	Podiatry
	Number of students					
1971–72	44,454	2,288	17,169	23,934	3,068	1,267
1972–73	47,404	2,544	18,474	26,591	3,315	1,248
1973–74	50,689	2,777	19,698	30,329	3,529	1,639
1974–75[1]	53,653	3,137	19,738	29,436	3,667	1,802
1975–76[1]	55,855	3,394	20,585	31,597	3,901	2,043
1976–77[1]	57,737	3,684	20,806	31,268	3,996	2,237
1977–78[1]	58,534	3,738	21,094	31,706	4,045	2,265

[1] Estimated enrollments.

SOURCES: Bureau of Health Manpower: *Enrollment in Health Professions Schools By Profession, Class Year, Sex, and Racial/Ethnic Group, Academic Year, 1973-74.* BHM/OPD/MAB Report No. 78-16. Health Resources Administration. Hyattsville, Md., Dec. 31, 1977; Student and Institutional Assistance Branch, Division of Manpower Training Support, Bureau of Health Manpower: Data from the Annual Operating Reports.

Table 123. Physicians per 10,000 population: Selected countries, 1970 and most recent data years available

(Data are based on reporting by government administrations)

Country	1970	Most recent data year	
	Physicians per 10,000 population	Year	Physicians per 10,000 population
Canada	14.6	1976	17.3
United States[1]	15.4	1976	17.8
Sweden	13.6	1975	17.1
England and Wales	12.2	1974	13.1
Netherlands	12.5	1976	16.6
German Democratic Republic	16.0	1976	19.1
German Federal Republic	17.2	1975	19.9
France	13.4	1975	14.7
Switzerland	14.2	1976	19.1
Italy[2]	18.1	1974	20.6
Israel[2]	25.0	1973	28.7
Japan	11.3	1975	11.8
Australia	---	1972	13.9

[1] Includes estimates of active physicians in the United States and U.S. outlying areas.
[2] Number on the register. Not all working in the country.

NOTE: Countries are grouped by continent.

SOURCES: World Health Organization: *World Health Statistics Annual, 1970,* Vol. III, and *1977,* Vol. III. Geneva. World Health Organization, 1974 and 1977; World Health Organization: Unpublished data; Bureau of Health Manpower, Health Resources Administration: Data from the Manpower Analysis Branch.

Table 124. Physicians (M.D.'s), according to type of practice: United States, selected years 1968-76

(Data are based on reporting by physicians)

Type of practice	Year					
	1968	1970	1972	1974	1975	1976
	Number of physicians					
Doctors of medicine	311,383	328,020	350,933	374,706	388,626	404,338
Professionally active M.D.'s	290,750	304,926	315,522	325,567	335,608	343,876
Non-Federal	264,287	278,855	290,590	300,997	309,410	318,089
Patient care	236,460	252,778	266,587	276,070	285,345	292,152
Office-based practice	179,805	187,637	197,457	202,435	211,776	213,117
General practice[1]	52,939	50,415	48,783	46,341	45,863	45,503
Other specialty	126,866	137,222	148,674	156,094	165,913	167,614
Hospital-based practice	56,655	65,141	69,130	73,635	73,569	79,035
Residents—all years[2]	41,241	45,514	49,159	54,130	53,150	58,482
Full-time hospital staff	15,414	19,627	19,971	19,505	20,419	20,553
Other professional activity[3]	27,827	26,077	24,003	24,927	24,065	25,937
Federal	26,463	26,071	24,932	24,570	26,198	25,787
Patient care	20,469	20,566	20,841	20,912	22,325	22,086
Office-based practice	2,977	2,819	1,901	1,736	1,841	1,652
General practice[1]	1,304	906	505	506	557	519
Other specialty	1,673	1,913	1,396	1,230	1,284	1,133
Hospital-based practice	17,492	17,747	18,940	19,176	20,484	20,434
Residents—all years[2]	5,277	5,173	3,922	4,358	4,089	3,934
Full-time hospital staff	12,215	12,574	15,018	14,818	16,395	16,500
Other professional activity[3]	5,994	5,505	4,091	3,658	3,873	3,701
Inactive M.D.'s	18,544	19,533	20,021	21,522	21,360	22,024
Not classified[4]	–	357	12,225	20,092	25,790	29,681
Unknown[5]	2,089	3,204	3,165	7,525	5,868	8,757

[1] Includes general practice and family practice.

[2] Includes interns and residents.

[3] Includes medical teaching, administration, research, and other.

[4] Information not available.

[5] Address not known.

NOTE: Federal and non-Federal M.D.'s in the 50 States and the District of Columbia are included.

SOURCES: Haug, J. N., Roback, G. A., Theodore, C. N., Balfe, B. E.: *Distribution of Physicians, Hospitals, and Hospital Beds in the U.S., 1968.* Chicago. American Medical Association, 1970. (Copyright 1970: used with the permission of the American Medical Association.); Haug, J. N., Roback, G. A., and Martin, B. C.: *Distribution of Physicians in the United States, 1970.* Chicago. American Medical Association, 1971. (Copyright 1971: used with the permission of the American Medical Association.); Roback, G. A.: *Distribution of Physicians in the U.S., 1972.* Chicago. American Medical Association, 1973. (Copyright 1973: used with the permission of the American Medical Association.); Roback, G. A. and Mason, H. R.: *Physician Distribution and Medical Licensure in the U.S., 1974.* Chicago. American Medical Association, 1975. (Copyright 1975: used with the permission of the American Medical Association.); Goodman, L. J. and Mason, H. R.: *Physician Distribution and Medical Licensure in the U.S., 1975.* Chicago. American Medical Association, 1976. (Copyright 1976: used with the permission of the American Medical Association.); Goodman, L. J.: *Physician Distribution and Medical Licensure in the U.S., 1976.* Chicago. American Medical Association, 1977. (Copyright 1977: used with the permission of the American Medical Association.).

Table 125. Professionally active physicians (M.D.'s), according to primary specialty: United States, selected years 1968-76

(Data are based on reporting by physicians)

Primary specialty	Year					
	1968	1970	1972	1974	1975	1976
	Number of physicians					
Professionally active physicians	290,750	304,926	315,522	325,567	335,608	343,876
Primary care	114,496	115,505	120,876	124,572	128,745	134,051
General practice[1]	60,258	56,804	54,357	53,152	53,714	54,631
Internal medicine	37,956	41,196	47,343	51,143	53,712	57,312
Pediatrics	16,282	17,505	19,176	20,277	21,319	22,108
Other medical specialties	15,504	17,127	16,282	17,220	18,743	18,702
Dermatology	3,710	3,937	4.166	4,414	4,594	4,755
Pediatric allergy	393	388	379	423	439	469
Pediatric cardiology	435	471	505	521	527	537
Internal medicine subspecialties[2]	10,966	12,331	11,232	11,862	13,183	12,941
Surgical specialties	80,386	84,545	89,666	92,123	94,776	97,416
General surgery	27,926	29,216	30,518	30,672	31,173	31,899
Neurological surgery	2,376	2,537	2,716	2,824	2,898	2,959
Obstetrics and gynecology	17,655	18,498	19,820	20,607	21,330	21,908
Ophthalmology	9,237	9,793	10,318	10,621	11,011	11,326
Orthopedic surgery	8,704	9,467	10,216	10,861	11,267	11,689
Otolaryngology	5,100	5,305	5,563	5,509	5,670	5,788
Plastic surgery	1,401	1,583	1,770	2,075	2,224	2,337
Colon and rectal surgery	706	663	645	655	655	667
Thoracic surgery	1,793	1,779	1,899	1,909	1,960	2,020
Urology	5,488	5,704	6,201	6,390	6,588	6,823
Other specialties	80,364	87,749	88,698	91,652	93,344	93,707
Anesthesiology	9,990	10,725	11,740	12,375	12,741	13,074
Neurology	2,631	3,027	3,438	3,791	4,085	4,374
Pathology	9,368	10,135	10,881	11,274	11,603	11,815
Forensic pathology	192	193	187	192	186	203
Psychiatry	19,697	20,901	22,319	23,075	23,683	24,196
Child psychiatry	1,684	2,067	2,242	2,384	2,557	2,618
Physical medicine and rehabilitation	1,380	1,443	1,503	1,557	1,615	1,665
Radiology	9,313	10,380	11,772	11,485	11,417	11,627
Diagnostic radiology	1,525	1,941	2,055	3,054	3,500	3,794
Therapeutic radiology	724	855	920	1,060	1,161	1,202
Miscellaneous[3]	23,860	26,082	21,641	21,405	20,796	19,139

[1] Includes general practice and family practice.

[2] Includes gastroenterology, pulmonary diseases, allergy, and cardiovascular diseases.

[3] Includes occupational medicine, general preventive medicine, aerospace medicine, public health, other specialties not listed, and unspecified specialties.

NOTE: Federal and non-Federal active M.D.'s in the 50 States and the District of Columbia are included. Physicians not classified, inactive physicians, and physicians with unknown address in the United States are excluded. For 1976 this includes 29,681 physicians not classified, 22,024 physicians inactive, and 8,757 physicians with unknown address.

SOURCES: Haug, J. N., Roback, G. A., Theodore, C. N., Balfe, B. E.: *Distribution of Physicians, Hospitals, and Hospital Beds in the U.S., 1968.* Chicago. American Medical Association, 1970. (Copyright 1970: used with the permission of the American Medical Association.); Haug, J. N., Roback, G. A., and Martin, B. C.: *Distribution of Physicians in the United States, 1970.* Chicago. American Medical Association, 1971. (Copyright 1971: used with the permission of the American Medical Association.); Roback, G. A.: *Distribution of Physicians in the U.S., 1972.* Chicago, American Medical Association, 1973. (Copyright 1973: used with the permission of the American Medical Association.); Roback, G. A. and Mason, H. R.: *Physician Distribution and Medical Licensure in the U.S., 1974.* Chicago. American Medical Association, 1975. (Copyright 1975: used with the permission of the American Medical Association.); Goodman, L. J. and Mason, H. R.: *Physician Distribution and Medical Licensure in the U.S., 1975.* Chicago. American Medical Association, 1976. (Copyright 1976: used with the permission of the American Medical Association.); Goodman, L. J.: *Physician Distribution and Medical Licensure in the U.S., 1976.* Chicago. American Medical Association, 1977. (Copyright 1977: used with the permission of the American Medical Association.)

Table 126. Professionally active physicians (M.D.'s), according to major activity and primary specialty: United States, 1976
(Data are based on reporting by physicians)

Primary specialty	Major professional activity				
	Total	Patient care			Other[2]
		Office-based practice	Hospital-based practice		
			Residents—all years[1]	Full-time physicians	
	Number of physicians				
Professionally active physicians	343,876	214,769	62,416	37,053	29,638
Primary care	134,051	86,884	27,811	10,727	8,629
General practice[3]	54,631	46,022	4,372	3,115	1,122
Internal medicine	57,312	28,025	18,128	5,607	5,552
Pediatrics	22,108	12,837	5,311	2,005	1,955
Other medical specialties	18,702	13,111	771	2,285	2,535
Dermatology	4,755	3,571	641	287	256
Pediatric allergy	469	329	73	26	41
Pediatric cardiology	537	227	57	113	140
Internal medicine subspecialties[4]	12,941	8,984	0	1,859	2,098
Surgical specialties	97,416	68,224	18,858	6,825	3,509
General surgery	31,899	19,764	8,445	2,540	1,150
Neurological surgery	2,959	2,031	533	246	149
Obstetrics and gynecology	21,908	15,848	3,762	1,350	948
Ophthalmology	11,326	8,880	1,596	488	362
Orthopedic surgery	11,689	8,398	2,046	910	335
Otolaryngology	5,788	4,347	836	421	184
Plastic surgery	2,337	1,806	340	124	67
Colon and rectal surgery	667	597	32	27	11
Thoracic surgery	2,020	1,412	276	220	112
Urology	6,823	5,141	992	499	191
Other specialties	93,707	46,550	14,976	17,216	14,965
Anesthesiology	13,074	9,033	1,727	1,485	829
Neurology	4,374	1,955	1,134	574	711
Pathology	11,815	4,259	2,543	2,925	2,088
Forensic pathology	203	88	8	10	97
Psychiatry	24,196	12,364	3,924	4,970	2,938
Child psychiatry	2,618	1,490	303	369	456
Physical medicine and rehabilitation	1,665	614	289	594	168
Radiology	11,627	7,003	1,810	2,090	724
Diagnostic radiology	3,794	2,245	549	723	277
Therapeutic radiology	1,202	701	210	232	59
Miscellaneous[5]	19,139	6,798	2,479	3,244	6,618

[1] Includes interns and residents.
[2] Includes medical teaching, administration, research, and other professional activities.
[3] Includes general practice and family practice.
[4] Includes gastroenterology, pulmonary diseases, allergy, and cardiovascular diseases.
[5] Includes occupational medicine, general preventive medicine, aerospace medicine, public health, other specialties not listed, and unspecified specialties.

SOURCE: Goodman, L. J.: *Physician Distribution and Medical Licensure in the U.S., 1976.* Chicago. American Medical Association, 1977. (Copyright 1977: used with the permission of the American Medical Association.)

Table 127. Active non-Federal physicians (M.D.'s) per 10,000 resident population, according to geographic region and location: United States, 1972 and 1976

(Data are based on reporting by physicians)

Year and location	Geographic region				
	All regions	Northeast	North Central	South	West
1972	Number of physicians per 10,000 resident population				
United States	14.5	18.8	12.5	12.0	16.4
Within SMSA	17.2	20.2	15.0	15.3	18.4
Large SMSA	19.8	23.3	16.4	18.0	20.3
Core counties	23.1	27.0	20.2	22.8	21.7
Fringe counties	12.2	16.4	8.3	9.9	12.5
Medium SMSA	14.0	14.9	11.9	14.1	15.2
Other SMSA	13.3	12.9	14.7	12.7	12.5
Outside SMSA	7.3	10.0	6.9	6.4	8.6
Adjacent to SMSA	7.1	9.4	7.1	5.8	8.6
Urbanized	9.0	9.1	9.7	7.9	9.5
Less urbanized	5.9	10.3	5.4	5.4	7.1
Thinly populated	3.7	6.0	3.7	3.3	5.6
Not adjacent to SMSA	7.5	11.9	6.8	7.1	8.6
Urbanized	10.8	15.8	9.6	10.5	10.4
Less urbanized	6.6	8.7	6.5	6.1	7.8
Thinly populated	4.0	8.5	3.6	3.7	5.3
1976					
United States	16.2	20.6	14.2	13.8	17.9
Within SMSA	19.3	22.2	17.3	17.6	20.2
Large SMSA	22.0	25.4	18.9	20.4	22.3
Core counties	25.5	29.0	23.4	25.5	23.8
Fringe counties	14.4	19.1	10.4	12.1	14.0
Medium SMSA	16.2	16.8	13.8	16.6	17.2
Other SMSA	15.0	14.6	16.6	14.5	13.6
Outside SMSA	8.0	10.9	7.5	7.2	9.5
Adjacent to SMSA	7.8	9.9	7.7	6.5	9.7
Urbanized	9.9	9.6	10.7	8.9	10.7
Less urbanized	6.4	11.4	5.7	5.9	8.2
Thinly populated	3.7	6.7	3.3	3.5	5.8
Not adjacent to SMSA	8.4	13.5	7.3	7.9	9.4
Urbanized	12.4	18.0	11.2	12.2	11.9
Less urbanized	7.2	9.6	6.9	6.6	8.4
Thinly populated	4.2	10.6	3.6	3.9	5.6

NOTES: The active non-Federal physicians include 12,225 physicians not classified in 1972 and 29,681 physicians not classified in 1976. Counties are grouped according to the April 1973 Office of Management and Budget metropolitan-nonmetropolitan designations. Alaska is excluded from the location categories. However, the Alaska State total is included in the West total and the United States total.

SOURCES: National Center for Health Statistics: Data computed by the Divison of Analysis from Roback, G.A.: *Distribution of Physicians in the U.S., 1972.* Chicago. American Medical Association, 1973. (Copyright 1973: used with the permission of the American Medical Association.); and Goodman, L.J.: *Physicians Distribution and Medical Licensure in the U.S., 1976.* Chicago. American Medical Association, 1977. (Copyright 1977: used with the permission of the American Medical Association.)

Table 128. Group practices, group physicians, average annual rate of change, and percent of active non-Federal physicians in group practice, according to Census region and geographic division: United States, 1969 and 1975

(Date are based on reporting by physicians)

Census region and geographic division	Number of group practices		Number of group physicians		Average annual rate of change 1969–75		Percent of active non-Federal physicians[1] in group practices	
	1969	1975	1969	1975	Group practice	Group physicians	1969	1975
United States	6,357	8,461	40,028	66,712	4.9	8.9	17.7	23.7
Northeast	939	1,540	6,485	12,149	8.6	11.0	9.4	15.0
New England	249	476	1,514	3,450	11.4	14.7	9.3	16.9
Middle Atlantic	690	1,064	4,971	8,699	7.5	9.8	9.5	14.3
North Central	1,982	2,543	11,820	19,230	4.2	8.4	22.0	29.5
East North Central	1,190	1,613	6,925	11,975	5.2	9.6	17.9	25.5
West North Central	792	930	4,895	7,255	2.7	6.8	32.3	39.4
South	2,001	2,539	11,258	17,845	4.0	8.0	19.5	23.3
South Atlantic	892	1,277	5,219	9,496	6.2	10.5	17.3	22.6
East South Central	406	507	1,987	3,134	3.8	7.9	19.4	24.4
West South Central	703	755	4,052	5,215	1.2	4.3	23.6	23.8
West	1,435	1,839	10,465	17,488	4.2	8.9	23.0	29.7
Mountain	358	481	1,913	3,257	5.0	9.3	22.3	27.2
Pacific	1,077	1,358	8,552	14,231	3.9	8.9	23.1	30.4

[1] Excludes interns and residents.

NOTE: Group practices and group physicians in the 50 States and the District of Columbia are included.

SOURCE: Todd, C., and McNamara, M.E.: *Medical Groups in the U.S., 1969.* Chicago. American Medical Association, 1971. (Copyright 1971: used with the permission of the American Medical Association.); Goodman, L.J., Bennette, E.H., and Odem, R.J.: *Group Medical Practice in the U.S., 1975.* Chicago. American Medical Association, 1977. (Copyright 1977: used with the permission of the American Medical Association.); Haug, J.N. and Roback, G.A.: *Distribution of Physicians, Hospitals, and Hospital Beds in the U.S., 1969.* Chicago. American Medical Association, 1970. (Copyright 1970: used with the permission of the American Medical Association.); Goodman, L.J.: *Physician Distribution and Medical Licensure in the U.S.,* 1975. Chicago. American Medical Association, 1976. (Copyright 1976: used with the permission of the American Medical Association.)

Table 129. Medical personnel per 10,000 resident population, according to profession, geographic region, and location: United States, selected years 1972–76

(Data are based on reporting by medical personnel or on registers)

Geographic region and location	Profession				
	Active non-Federal physicians[1] 1976	Licensed dentists[2] 1974	Licensed dental hygienists[2] 1974	Registered nurses employed in nursing[1] 1972	Licensed practical nurses employed in nursing 1974
	Number of medical personnel per 10,000 resident population				
United States	16.2	5.4	1 9	38.2	19.2
Within SMSA	19 3	6.0	2.2	38.0	18.9
Large SMSA	22.0	6.7	2 2	37.8	16 7
Core counties	25 5	6 7	2 2	40.2	18.2
Fringe counties	14 4	6 8	2.3	32 4	13.2
Medium SMSA	16 2	5 2	2 2	38 5	20.8
Other SMSA	15 0	4.8	2.0	37.8	24.1
Outside SMSA	8 0	3 7	1 2	27.0	20.0
Adjacent to SMSA	7 8	3 6	1 3	26 8	19.2
Urbanized	9.9	4 4	1 6	34.9	19.7
Less urbanized	6 4	3 2	1.0	21.4	20.0
Thinly populated	3 7	2 2	0 5	13.0	11.4
Not adjacent to SMSA	8 4	3 7	1.1	27 2	21.0
Urbanized	12 4	4 4	1.7	35.5	23.8
Less urbanized	7 2	3 6	0 9	25.3	21.9
Thinly populated	4 2	2.8	0 7	17.3	12.8
Northeast	20 6	6 9	2 4	51.4	19 9
Within SMSA	22 2	7 2	2 4	46.7	19.8
Large SMSA	25.4	7 9	2 1	44.8	18.3
Core counties	29.0	7 8	2.0	46.2	19.4
Fringe counties	19 1	8.3	2.4	42.2	16.2
Medium SMSA	16.8	5 9	2.9	49.6	22.6
Other SMSA	14.6	5.6	2 8	55.0	22.5
Outside SMSA	10.9	4.8	2 5	47.7	20.9
Adjacent to SMSA	9.9	5.0	2.2	46.7	20.1
Urbanized	9 6	5 2	2.2	47 9	20.2
Less urbanized	11 4	4.1	2.3	44.5	20 7
Thinly populated	6.7	5.1	1 1	24 1	9.3
Not adjacent to SMSA	13 5	4 6	3.2	50.3	23.0
Urbanized	18.0	4.4	3.7	58 8	26.3
Less urbanized	9.6	4 5	2.4	43.5	20.3
Thinly populated	10.6	5.7	4 5	39.9	19.8

North Central	14.2
Within SMSA	17.3
Large SMSA	18.9
Core counties	23.4
Fringe counties	10.4
Medium SMSA	13.8
Other SMSA	16.6
Outside SMSA	7.5
Ajacent to SMSA	7.7
Urbanized	10.7
Less urbanized	5.7
Thinly populated	3.3
Not adjacent to SMSA	7.3
Urbanized	11.2
Less urbanized	6.9
Thinly populated	3.6
South	13.8
Within SMSA	17.6
Large SMSA	20.4
Core counties	25.5
Fringe counties	12.1
Medium SMSA	16.6
Other SMSA	14.5
Outside SMSA	7.2
Adjacent to SMSA	6.5
Urbanized	8.9
Less urbanized	5.9
Thinly populated	3.5
Not adjacent to SMSA	7.9
Urbanized	12.2
Less urbanized	6.6
Thinly populated	3.9

5.2	1.7	38.4	18.2
5.6	2.0	36.7	18.4
6.1	2.1	34.6	16.1
5.5	2.1	38.7	18.8
7.3	2.1	25.9	10.7
4.8	1.9	38.5	20.5
5.2	1.8	42.6	24.3
4.2	1.0	29.6	17.9
4.0	1.1	28.4	16.9
4.6	1.6	35.9	18.6
3.7	0.9	23.6	16.2
3.1	0.4	16.8	10.7
4.3	0.9	30.8	18.9
4.8	1.4	41.0	21.1
4.4	0.9	29.8	20.1
3.2	0.5	20.3	12.6
4.1	1.6	28.8	20.7
4.8	2.0	32.2	19.9
5.4	2.1	32.7	15.7
5.9	2.2	37.0	17.5
4.5	1.8	25.2	12.6
4.8	2.0	32.2	21.0
4.0	2.0	31.2	25.5
2.8	1.0	18.7	21.9
2.7	1.0	17.4	20.9
3.4	1.3	23.9	21.1
2.5	0.9	15.7	22.8
1.7	0.5	9.9	11.7
2.8	0.9	20.0	23.0
3.7	1.5	28.4	25.6
2.6	0.7	17.6	24.6
1.9	0.5	11.5	13.0

Table 129. Medical personnel per 10,000 resident population, according to profession, geographic region, and location: United States, selected years—Continued

(Data are based on reporting by medical personnel or on registers)

Geographic region and location	Profession				
	Active non-Federal physicians[1] 1976	Licensed dentists[2] 1974	Licensed dental hygienists[2] 1974	Registered nurses employed in nursing[3] 1972	Licensed practical nurses employed in nursing 1974
	Number of medical personnel per 10,000 resident population				
West	17.9	6.5	2.1	36.5	17.0
Within SMSA	20.2	6.9	2.3	35.3	16.8
Large SMSA	22.3	7.3	2.5	36.0	16.0
Core counties	23 8	7 4	2.4	37 0	16.9
Fringe counties	14.0	6.7	3 3	30.3	11.4
Medium SMSA	17.2	6.0	1 8	32.9	17.5
Other SMSA	13.6	6.6	2.0	36.5	20.3
Outside SMSA	9 5	4.8	1 2	28.8	18.2
Adjacent to SMSA	9.7	4.8	1 2	26.3	17.3
Urbanized	10 7	4.8	1.2	27.3	17.9
Less urbanized	8 2	5.0	1.2	24.9	16.9
Thinly populated	5 8	3.5	1.3	21.6	12.0
Not adjacent to SMSA	9.4	4.9	1.2	30.6	18.8
Urbanized	11.9	5.4	1.5	32 6	22.1
Less urbanized	8.4	4.8	1 1	30 6	18.2
Thinly populated	5.6	3.8	1.1	24.3	11.0

[1] Includes 29,681 physicians not classified in 1976

[2] Includes dentists and dental hygienists licensed in State of residence Excludes Pennsylvania from the licensed dentists and licensed dental hygienists. Dental register data for Pennsylvania were not available for 1974.

[3] Excludes registered nurses with address unknown from the location catagories. These nurses are included in the region totals and the United States total.

NOTES: Counties are grouped according to the April 1973 Office of Management and Budget metropolitan-nonmetropolitan designations. Alaska is excluded from the location categories. However, the Alaska State total is included in the West total and the United States total.

SOURCES: National Center for Health Statistics: Computed by the Division of Analysis from Goodman, L.J : *Physician Distribution and Medical Licensure in the U.S., 1976.* Chicago. American Medical Association, 1977. (Copyright 1977: used with the permission of the American Medical Association.); Health Resources Administration: Data from the Division of Dentistry, Bureau of Health Manpower; Roth, A.V. and Walden, A.R.: *The Nation's Nurses: 1972 Inventory of Registered Nurses.* Kansas City, Mo. American Nurses' Association, 1974. (Copyright 1974: used with the permission of the American Nurses' Association.); Roth, A.V. and Schmitting, G.T.: *LPNs: 1974 Inventory of Licensed Practical Nurses.* Kansas City, Mo. American Nurses' Association, 1977. (Copyright 1977: used with the permission of the American Nurses' Association.); U.S. Bureau of the Census: Estimates of the population of States with components of change, 1970 to 1975. *Current Population Reports.* Series P–25, No 640. Washington. U.S. Government Printing Office, Nov 1976. p. 21.

Table 130. Medical personnel per 10,000 population, according to profession: Selected countries, most recent data years available

(Data are based on reporting by government administrations)

Country	Year	Profession				
		Physicians	Dentists	Pharmacists	Nurses[1]	Assistant nurses[2]
		Number of medical personnel per 10,000 population				
Canada	1976	17.3	4.1	6.0	60.7	30.0
United States[3]	1976	17.8	5.2	6.8	43.3	22.7
Sweden[4]	1975	17.1	8.6	4.7	59.0	16.7
England and Wales[5]	1974	13.1	2.9	2.8	26.5	11.0
Netherlands[6]	1976	16.6	3.3	5.0	23.2	10.2
German Democratic Republic	1976	19.1	4.8	2.1	---	---
German Federal Republic	1975	19.9	5.1	4.1	29.3	7.3
France	1975	14.7	4.8	5.8	23.9	14.1
Switzerland	1976	19.1	5.7	---	37.8	5.7
Italy[7]	1974	20.6	---	6.9	8.8	19.1
Israel[8]	1973	28.7	5.6	6.4	---	---
Japan	1975	11.8	3.8	6.9	17.1	16.3
Australia[8]	1972	13.9	4.1	---	---	---

[1] Includes all graduates of a nursing school working in the country in any nursing field.

[2] Includes nursing personnel without the full education and training of a professional nurse. Assignments include general patient care of a less complex nature in hospitals and other health services, in principle under the supervision of a professional nurse.

[3] Dentists and pharmacists are estimates for data year 1975.

[4] Nurses include nurse-midwives.

[5] Medical personnel, except for physicians, are those in government services.

[6] Pharmacists include pharmaceutical assistants.

[7] Physicians, including those practicing dentistry, and pharmacists are the number on the register. Nurses and assistant nurses are personnel in hospitals and other health establishments for data year 1973.

[8] All medical personnel are the number on the register.

NOTE: Countries are grouped by continent.

SOURCES: World Health Organization: *World Health Statistics Annual, 1977,* Vol. III. Geneva. World Health Organization, 1977; World Health Organization: Unpublished data; Bureau of Health Manpower, Health Resources Administration: Data from the Manpower Analysis Branch.

B. Health Facilities

Inpatient health care facilities include short- and long-stay hospitals, nursing homes, and other facilities, such as those for the mentally retarded and emotionally disturbed. Short- and long-stay hospitals are classified by the average length of stay of the patients discharged from them. In short-stay hospitals the average length of stay is less than 30 days, while in long-stay hospitals the average length of stay is 30 days or more. There were 6,657 short-stay hospitals, 614 long-stay hospitals, 20,185 nursing homes, and 6,280 other inpatient health facilities in the United States in 1976.

The number of beds in short-stay hospitals increased from 1.0 million in 1971 to 1.1 million in 1976, while the number of beds in long-stay hospitals decreased from 0.5 million to 0.3 million. As a result, the total number of hospital beds in the United States decreased from 1.5 million in 1971 to 1.4 million in 1976. This decrease mainly resulted from reductions in the number of beds in long-stay psychiatric hospitals. The number of nursing home beds increased during the same 5-year period from 1.2 million to 1.4 million.

A comparison between hospital data from different countries is difficult. As a result of historical factors and legislative and regulatory considerations, the facilities in certain countries may perform different functions from those in other countries. For example, stroke victims in one country may be admitted to one type of facility during the initial stage of care and then transferred to another type of facility for rehabilitation, while in another country, both types of service may be provided within a single facility. Such differences in the makeup of facilities create problems in the interpretation of international data. Sweden, for instance, maintains approximately 15 hospital beds per 1,000 population, while the United States has fewer than 7 hospital beds per 1,000 population, according to the official statistics of the two countries. However, it is not clear how much of this difference is the result of definitional differences and how much is the result of differences between the countries in the availability of specific services. Work is presently being done to resolve some of these comparability problems.

About half of all hospitals in the United States were owned by nonprofit organizations in 1976, with another 36 percent owned by either Federal, State, or local governments, and only 14 percent owned by profitmaking organizations. However, about 75 percent of all nursing homes were owned by profitmaking organizations in 1976, while only 18 percent were owned by nonprofit organizations and 7 percent were owned by government.

Most hospital care is provided by community hospitals. Community hospitals are defined as non-Federal short-stay general and other specialty hospitals, excluding psychiatric, alcoholism, drug abuse, tuberculosis, and chronic disease hospitals, and the hospital units of institutions such as prisons. Of the 7,271 hospitals in operation in 1976, 6,054 were community hospitals. Additionally, 71 percent of all hospital beds and 90 percent of those in short-stay hospitals were in community hospitals.

In 1976, there were nearly a million beds in community hospitals in the United States, almost twice as many as there were in 1950. The Hospital Survey and Construction Act of 1946, commonly called the Hill-Burton Act, was the impetus for much of this increase. As a result of the Hill-Burton Act, planning for health facilities was initiated in every State, and Federal funds were made available for the construction of health facilities with the cooperation of States and local communities. During the 1960's, the greatest increase in the number of beds in community hospitals occurred. This was also the period when the greatest number of beds were made available from the Hill-Burton program.[1]

NOTE: Unless otherwise noted, data are from the ongoing data-collection systems of the National Center for Health Statistics. In many instances the data have been published in the *Vital and Health Statistics* series.

[1] Bureau of Health Planning and Resources Development, Health Resources Administration, Public Health Service: Unpublished data from the Division of Facilities Development.

The rate of increase in beds has exceeded the rate of population growth. As a result, the number of community hospital beds per 1,000 persons increased from 3.6 in 1960 to 4.6 in 1976. Since 1940, the greatest increases in bed-population ratios have occurred in Mississippi, Arkansas, Alabama, Tennessee, and Georgia. These States were among those with the lowest ratios in 1940. As a result of the allocation of Hill-Burton funds to areas with bed shortages, however, a more equitable distribution of the community hospital bed supply across the country was achieved. Many of the States which had low bed-population ratios in 1940 had ratios above the national average in 1976. However, considerable differences still existed in the bed-population ratios in 1976. The figure ranged from 7.3 in the District of Columbia and 6.7 in North Dakota to 3.1 in Hawaii and 2.2 in Alaska.

Geographic and population characteristics explain much of this variation. The District of Columbia, for example, is a metropolitan center with hospital beds that serve suburban populations located in Maryland and Virginia as well as District residents. The low figure for Alaska does not take into account the availability of short-stay Indian Health Service hospitals which are not classified as community hospitals. The highest ratios of beds to population were generally found in the West North Central States including North Dakota, Nebraska, Minnesota, Iowa, and Kansas. These States are characterized by relatively low physician-population ratios and population density. Different patterns of health service delivery develop in such areas to accommodate the sparse distribution of physicians and population.

Under the National Guidelines for Health Planning, issued in 1978 by the Secretary of Health, Education, and Welfare to help clarify and coordinate national health policy, the desirable number of non-Federal, short-stay hospital beds should be less than 4 beds for each 1,000 persons in a health service area, with adjustments allowed under certain circumstances.

Community hospitals have been getting larger each year since 1950.[2] Between 1970 and 1976, while the number of hospitals changed very little, the number of beds in those hospitals increased. Larger hospitals have been expanding, while many small hospitals have either closed or merged. As a result, only 16.1 percent of community hospital beds were in hospitals that had fewer than 100 beds in 1976 compared with 19.3 percent in 1970. The distribution of small hospitals varied greatly among States and geographic divisions and reflected the differences in population density. For example, only 4.7 percent of the beds in the Middle Atlantic Division were in small hospitals in 1976. The District of Columbia, New Jersey, Rhode Island, Maryland, and New York all had less than 5 percent of their community hospital beds in small hospitals. On the other hand, Wyoming and Alaska had 66.4 and 57.8 percent, respectively, and six other States had greater than 35 percent of their community hospital beds in small hospitals.

An increase in the number of employees per average daily patients, a decrease in occupancy rates, and the provision of more facilities and services in hospitals have all contributed to the rise in costs per patient day. The ratio of employees to average daily patients (i.e., the number of patients in a hospital on an average day) has been increasing almost 3 percent per year since 1960. Although some of this increase is the result of an increase in staff for outpatient services, an upward trend is still evident when an adjustment is made for outpatient services. While this increase may be an indication of higher quality care being provided, it nonetheless contributes to the higher cost of hospital care.

The occupancy rate measures the extent to which hospital beds are used. Unoccupied beds are costly to maintain, since a substantial portion of hospital bed costs are fixed. The National Guidelines for Health Planning state that there should be at least an 80-percent average annual occupancy rate for non-Federal short-stay hospital beds in a health service area. In 1976, 73.9 percent of beds in community hospitals were occupied on the

[2] American Hospital Association: Hospitals. *JAHA* 35(15):394, Aug. 1, 1961 and 40(15):439, Aug. 1, 1966; *Hospital Statistics, 1977 Edition.* Chicago. American Hospital Association, 1977. p. 4.

average day. This was lower than the 1970 occupancy rate of 77.3. Rates were highest in the Middle Atlantic States and lowest in the Pacific States. New York had the highest rate at 85.1 percent. The lowest occupancy rates were found in Wyoming (57.8 percent), Alaska (59.1 percent), and Montana (59.6 percent), States that have many smaller hospitals to serve their large rural populations.

Another factor contributing to rising hospital costs is the provision of more facilities and services in hospitals. More community hospitals had psychiatric, intensive care, and physical therapy units as well as open heart surgery, radioisotope, and electroencephalography facilities in 1976 than in 1970. While these facilities are necessary and improve the quality of care for patients, they are often expensive.

As already noted, it is important to consider population density in analyzing hospital data. Rural populations require smaller hospitals in dispersed locations, not large, centralized hospitals. Smaller hospitals typically have lower employee-patient ratios, lower occupancy rates, and provide fewer services than large metropolitan hospitals. Community hospitals within standard metropolitan statistical areas (SMSA's) had 76.3 percent of their beds in use on the average day in 1976, while only 67.4 percent were in use in hospitals outside SMSA's. There were 374 employees per 100 average daily patients in metropolitan community hospitals, and 305 employees per 100 average daily patients in nonmetropolitan community hospitals. Not only did metropolitan hospitals provide more services than nonmetropolitan hospitals in 1975, but a larger proportion of them participated in shared service programs in which two or more hospitals cooperate to provide services jointly.[3] Although the smaller hospitals are considered less efficient than large hospitals, they are needed to provide reasonable access to health care in rural areas.

Community hospitals within standard metropolitan statistical areas had 4.6 beds per 1,000 population in 1976, while community hospitals outside SMSA's had 4.3 beds per 1,000 population. However, for counties adjacent to SMSA's, there were 4.0 beds per 1,000 population in community hospitals compared with 4.8 beds per 1,000 population for counties that were not adjacent. The adjacent counties were being served to some extent by hospitals located within the SMSA's.

The number of beds in long-stay hospitals has decreased from a half million in 1971 to slightly more than 300,000 in 1976. Large decreases were experienced in long-term psychiatric and tuberculosis hospitals. There were 179,000 fewer beds in long-stay psychiatric hospitals in 1976 than in 1971. During the same 5-year period, however, the number of beds in short-stay psychiatric hospitals increased. This trend reflects changing practices in psychiatric care. In addition to a shorter average length of stay for psychiatric inpatients, there has been increased use of outpatient facilities. Community mental health centers and psychiatric outpatient clinics established in the 1960's and 1970's are now providing psychiatric care on an outpatient basis.

Almost three-fourths of all beds in long-stay hospitals in 1976 were in government-owned psychiatric hospitals. Most of the remaining long-stay beds in the United States were in State and local chronic disease hospitals and Federal general hospitals.

There has been a substantial increase in the number of nursing home beds in recent years. In 1976, there were about 1.4 million beds in nursing homes in the United States, an increase of 200,000 from 1971. In 1963, there were fewer than 570,000 beds in nursing homes. Nursing homes are classified in the Master Facility Inventory, which is a listing maintained by NCHS of all inpatient health facilities in the United States. Nursing homes are classified into 1 of 4 categories according to the type of care provided. These categories are nursing care, personal care with nursing, personal care without nursing, and domiciliary care homes. To be classified as a nursing care home, a nursing home must employ one or more full-time registered or licensed practical nurses and provide nursing care to at least half of the residents. In 1976, about 66 percent of nursing

[3] American Hospital Association: *Comparative Statistics on Health Facilities and Population, Metropolitan and Nonmetropolitan Areas.* Chicago. American Hospital Association, 1977.

homes were classified as nursing care homes, while only 58 percent were classified as such in 1971. This represents an upgrading of many facilities from personal care or domiciliary care homes to nursing care homes in 1976.

For every 1,000 persons 65 years of age and over in 1976, there were 61.3 beds in nursing homes. Of these beds, 51.2 were in nursing care homes. The highest ratios of nursing home beds to population 65 years of age and over in 1976 were in Nebraska (117.5), Colorado (104.2), and Wisconsin (100.6). The lowest ratios were in Florida (23.8), Arizona (25.2), and West Virginia (26.1).

In addition to hospitals and nursing homes, there were 6,280 other inpatient health facilities in the United States in 1976. These included facilities for the mentally retarded, homes for dependent children, homes for the emotionally disturbed, homes for drug abusers or alcoholics, facilities for the deaf and blind, and several other types of homes. Of the 376,000 beds in these health facilities, 182,000 were in facilities for the mentally retarded.

Table 131. Short-stay hospitals and beds, according to type of service and ownership of hospital: United States, 1971 and 1976

(Data are based on reporting by facilities)

Year and type of ownership	All short-stay hospitals	Community hospitals			All other hospitals			
		Total	General	Specialty	Total	General	Psychiatric	Other
1971	Number of hospitals							
All ownerships	6,857	6,195	6,044	151	662	509	106	47
Government	2,243	1,769	1,754	15	474	439	28	7
Federal	348	–	–	–	348	345	–	3
State-local	1,895	1,769	1,754	15	126	94	28	4
Proprietary	976	905	860	45	71	1	48	22
Nonprofit	3,638	3,521	3,430	91	117	69	30	18
Church	851	838	810	28	13	6	5	2
Other	2,787	2,683	2,620	63	104	63	25	16
1976								
All ownerships	6,657	6,054	5,915	139	603	411	146	46
Government	2,254	1,820	1,803	17	434	388	36	10
Federal	332	–	–	–	332	331	–	1
State-local	1,922	1,820	1,803	17	102	57	36	9
Proprietary	925	838	798	40	87	–	65	22
Nonprofit	3,478	3,396	3,314	82	82	23	45	14
Church	758	750	733	17	8	–	8	–
Other	2,720	2,646	2,581	65	74	23	37	14
1971	Number of beds							
All ownerships	1,000,269	893,060	882,921	10,139	107,209	95,786	8,751	2,672
Government	303,668	205,839	203,757	2,082	97,829	93,744	3,259	826
Federal	89,177	–	–	–	89,177	88,639	–	538
State-local	214,491	205,839	203,757	2,082	8,652	5,105	3,259	288
Proprietary	64,584	60,564	59,421	1,143	4,020	18	3,361	641
Nonprofit	632,017	626,657	619,743	6,914	5,360	2,024	2,131	1,205
Church	188,518	187,792	186,896	896	726	85	585	56
Other	443,499	438,865	432,847	6,018	4,634	1,939	1,546	1,149
1976								
All ownerships	1,079,195	973,920	962,729	11,191	105,275	88,862	13,664	2,749
Government	307,625	212,600	210,716	1,884	95,025	88,151	5,680	1,194
Federal	85,232	–	–	–	85,232	84,691	–	541
State-local	222,393	212,600	210,716	1,884	9,793	3,460	5,680	653
Proprietary	89,426	84,050	82,299	1,751	5,376	–	4,666	710
Nonprofit	682,144	677,270	669,714	7,556	4,874	711	3,318	845
Church	190,208	189,260	188,536	724	948	–	948	–
Other	491,936	488,010	481,178	6,832	3,926	711	2,370	845

NOTE: Community hospitals include all non-Federal short-stay hospitals classified by the American Hospital Association to one of the following services: General medical and surgical; obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; other specialty; children's general; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedic; and children's other specialty.

SOURCE: Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 132. Community hospital beds and average annual rate of change, according to geographic division and State: United States, selected years 1940–76

(Data are based on reporting by facilities)

Geographic division and State	Year										Period		
	1940[1]	1950[1]	1960[2]	1970	1971	1972	1973	1974	1975	1976	1940–60[1,2]	1960–70[2]	1970–76
	Number of community hospital beds										Average annual rate of change		
United States	416,979	493,867	638,588	874,593	893,060	905,919	926,793	945,489	961,999	973,920	2.1	3.1	1.8
New England	36,918	39,281	40,637	48,675	49,661	50,618	51,077	51,278	51,206	51,285	0.5	1.8	0.9
Maine	2,525	2,911	3,220	4,671	4,725	4,725	4,815	4,785	4,890	4,947	1.2	3.7	1.0
New Hampshire	2,083	2,232	2,649	2,977	3,127	3,198	3,256	3,253	3,351	3,353	1.2	1.2	2.0
Vermont	1,194	1,500	1,744	2,019	1,967	2,147	2,242	2,244	2,283	2,264	1.9	1.5	1.9
Massachusetts	22,116	22,415	21,405	25,122	25,997	26,365	26,445	26,746	26,425	26,330	−0.2	1.6	0.8
Rhode Island	2,764	2,916	3,111	3,675	3,419	3,550	3,609	3,508	3,481	3,467	0.6	1.7	−1.0
Connecticut	6,236	7,307	8,508	10,211	10,426	10,633	10,710	10,742	10,776	10,924	1.6	1.8	1.1
Middle Atlantic	107,444	115,511	136,969	163,932	166,400	168,021	168,881	170,457	171,155	171,507	1.2	1.8	0.8
New York	58,184	60,500	71,409	83,397	83,495	84,483	85,083	85,694	85,613	84,924	1.0	1.6	0.3
New Jersey	14,616	15,564	18,726	25,647	26,717	27,447	27,999	28,931	29,571	30,102	1.2	3.1	2.7
Pennsylvania	34,644	39,447	46,834	54,888	56,188	56,091	55,799	55,832	55,971	56,481	1.5	1.6	0.5
East North Central	85,632	98,381	130,298	177,801	180,969	183,304	186,660	189,224	191,602	193,189	2.1	3.1	1.4
Ohio	18,467	22,810	33,229	44,668	45,768	46,437	47,448	48,146	49,031	49,623	2.9	3.0	1.8
Indiana	7,938	10,290	14,343	20,737	21,240	21,644	22,467	23,161	23,457	23,544	3.0	3.7	2.1
Illinois	26,893	31,514	39,731	51,617	52,489	52,619	53,248	54,057	54,947	55,406	2.0	2.6	1.2
Michigan	21,508	20,885	26,113	37,946	38,581	39,494	39,695	40,125	40,551	40,295	1.0	3.7	1.0
Wisconsin	10,826	12,882	16,882	22,833	22,891	23,110	23,802	23,735	23,616	24,321	2.2	3.0	1.1
West North Central	41,924	52,147	65,900	92,149	91,879	92,336	93,878	96,016	96,755	97,725	2.3	3.4	1.0
Minnesota	10,786	13,113	16,516	23,330	22,148	22,423	22,985	23,382	23,627	23,633	2.1	3.5	0.2
Iowa	6,866	8,440	10,790	15,916	16,392	16,230	16,552	16,921	17,033	16,811	2.3	3.9	0.9
Missouri	10,909	13,152	16,948	23,847	23,892	24,649	24,821	25,540	25,931	26,629	2.2	3.4	1.8
North Dakota	2,214	2,646	3,242	4,100	3,973	3,964	4,137	4,285	4,201	4,263	1.9	2.3	0.6
South Dakota	1,822	2,884	3,065	3,725	3,713	3,620	3,715	3,791	3,746	3,804	2.6	2.0	0.3
Nebraska	4,422	5,512	6,227	9,200	9,441	9,040	9,177	9,399	9,378	9,514	1.7	3.9	0.6
Kansas	4,905	6,400	9,112	12,031	12,320	12,410	12,491	12,698	12,839	13,071	3.1	2.8	1.4
South Atlantic	44,996	58,434	83,684	120,886	125,850	129,013	134,611	138,091	143,703	148,042	3.1	3.7	3.4
Delaware	1,178	1,251	1,615	1,988	2,040	2,026	1,970	2,005	2,021	2,052	1.6	2.1	0.5
Maryland	7,119	8,355	9,989	12,044	12,398	12,484	12,651	12,961	13,195	13,579	1.7	1.9	2.0
District of Columbia	3,753	4,322	4,461	5,473	5,435	5,418	5,200	5,011	4,964	5,028	0.9	2.0	−1.4
Virginia	6,006	8,198	11,737	16,520	17,477	17,726	19,037	18,946	19,596	20,135	3.3	3.4	3.3
West Virginia	5,092	6,150	7,676	9,382	9,572	9,885	10,071	10,305	10,397	10,547	2.1	2.0	2.0

North Carolina	7,771	10,317	15,154	18,977	19,449	19,781	20,526	21,086	21,498	21,773	3.3	2.2	2.3
South Carolina	3,490	5,063	6,763	9,278	9,761	10,142	10,382	10,772	10,673	10,939	3.3	3.2	2.7
Georgia	5,271	6,879	10,844	17,291	18,456	18,931	19,786	20,657	21,320	22,079	3.6	4.7	4.1
Florida	5,316	7,899	15,445	29,933	31,262	32,620	34,988	36,348	40,039	41,910	5.3	6.6	5.6
East South Central	17,905	23,699	36,448	55,525	56,699	58,129	61,599	63,251	66,070	67,583	3.6	4.2	3.3
Kentucky	5,006	6,384	9,060	12,666	13,094	13,254	14,238	14,367	14,502	14,802	3.0	3.4	2.6
Tennessee	5,517	7,538	11,915	18,378	18,846	19,548	20,556	21,065	22,608	23,127	3.8	4.3	3.8
Alabama	4,261	6,026	9,219	14,764	14,590	15,234	16,149	16,891	17,641	17,867	3.9	4.7	3.2
Mississippi	3,121	3,751	6,254	9,717	10,169	10,093	10,656	10,928	11,319	11,787	3.5	4.4	3.2
West South Central	27,358	39,690	55,998	82,926	86,054	88,153	90,583	93,386	96,150	98,627	3.6	3.9	2.9
Arkansas	2,811	3,106	5,229	8,108	8,331	8,570	8,881	9,236	9,718	10,075	3.1	4.4	3.6
Louisiana	7,445	10,114	12,575	15,213	16,062	16,285	16,750	16,903	17,595	17,612	2.6	1.9	2.4
Oklahoma	4,382	5,560	7,426	11,475	11,801	11,702	11,878	12,153	12,433	12,678	2.6	4.4	1 7
Texas	12,720	20,910	30,768	48,130	49,859	51,596	53,074	55,094	56,404	58,262	4.4	4.5	3.2
Mountain	14,779	18,966	23,929	35,485	35,981	35,932	36,678	37,138	38,046	38,582	2.4	3.9	1.4
Montana	2,716	3,108	3,397	3,986	4,039	3,942	3,793	3,901	3,859	3,893	1.1	1.6	−0.4
Idaho	1,362	1,984	2,147	2,873	2,913	3,041	3,159	3,167	3,155	3,171	2.3	2.9	1.6
Wyoming	857	1,111	1,506	1,812	1,697	1,708	1,679	1,681	1,678	1,712	2.8	1.8	−0.9
Colorado	4,413	5,547	6,684	10,113	10,280	10,124	10,160	10,225	10,921	11,081	2.1	4.1	1.5
New Mexico	1,416	1,512	2,680	3,514	3,829	3,625	3,671	3,733	3,872	3,854	3.2	2.7	1.5
Arizona	1,698	2,979	3,898	7,278	7,452	7,610	8,055	8,215	8,271	8,369	4.2	6.2	2.3
Utah	1,756	2,020	2,503	3,855	3,760	3,719	3,658	3,740	3,781	3,918	1.8	4.3	0.3
Nevada	561	705	1,114	2,054	2,011	2,163	2,503	2,476	2,509	2,584	3.4	6.1	3.8
Pacific	40,023	47,758	64,725	97,214	99,567	100,413	102,826	106,648	107,312	107,380	2.4	4.1	1.7
Washington	5,875	8,368	9,220	11,561	11,644	11,740	11,750	11,775	11,829	11,956	2.3	2.3	0.6
Oregon	3,794	4,778	6,220	8,475	8,788	8,650	8,746	8,925	8,969	9,063	2.5	3.1	1.1
California	30,354	34,612	46,663	74,074	75,962	76,722	79,005	82,699	83,129	82,956	2.2	4.6	1.9
Alaska	. . .	. . .	474	618	657	704	702	700	744	843	. . .	2.7	5.2
Hawaii	. . .	. . .	2,148	2,486	2,516	2,597	2,623	2,549	2,641	2,562	. . .	1.5	0.5

[1] 1940 and 1950 data are estimated based on published figures.
[2] 1960 includes hospital units of institutions.

NOTE: Community hospitals include all non-Federal short-stay hospitals classified by the American Hospital Association to one of the following services: General medical and surgical; obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; other specialty; children's general; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedic; and children's other specialty.

SOURCES: American Medical Association: Hospital service in the United States. *JAMA* 116(11): 1055–1144, 1941, and 146(2): 109–184, 1951. (Copyright 1941 and 1951: used with the permission of the American Medical Association.); American Hospital Association: Hospitals. *JAHA* 35(15):383–430, Aug. 1, 1961. (Copyright 1961: used with the permission of the American Hospital Association.); Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 133. Community hospital beds per 1,000 population and average annual rate of change, according to geographic division and State: United States, selected years 1940–76

(Data are based on reporting by facilities)

Geographic division and State	Year										Period		
	1940[1]	1950[1]	1960[2]	1970	1971	1972	1973	1974	1975	1976	1940–60[1,2]	1960–70[2]	1970–76
	Community hospital beds per 1,000 population[3]										Average annual rate of change		
United States	3.2	3.3	3.6	4.3	4.4	4.4	4.5	4.5	4 6	4.6	0.6	1.8	1.1
New England	4.4	4.2	3.9	4.1	4.2	4.2	4.2	4.2	4.2	4.2	−0.6	0.5	0.4
Maine	3.0	3.2	3.4	4.7	4.7	4.6	4.7	4.6	4.7	4.7	0.6	3.2	0.0
New Hampshire	4.2	4.2	4.4	4.0	4.1	4.1	4.1	4.0	4.2	4.1	0.2	−1.0	0.4
Vermont	3.3	4.0	4.5	4.5	4.3	4.7	4.8	4.8	4.8	4.7	1 6	—	0.7
Massachusetts	5.1	4.8	4.2	4.4	4.5	4.6	4.6	4.6	4.6	4.6	−1.0	0.5	0.7
Rhode Island	3.9	3.8	3.7	4.0	3.7	3.8	3.8	3.8	3.8	3 7	−0.3	0.8	−1.3
Connecticut	3.7	3.6	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.5	−0 4	—	0.5
Middle Atlantic	3.9	3.8	4.0	4.4	4.4	4.5	4.5	4.6	4.6	4.6	0.1	1.0	0.7
New York	4.3	4.1	4.3	4.6	4.5	4.6	4.7	4.7	4.7	4.7	—	0.7	0.4
New Jersey	3.5	3.2	3.1	3 6	3.7	3.8	3.8	4.0	4.0	4.1	−0.6	1.5	2.2
Pennsylvania	3.5	3.8	4.1	4.7	4.7	4.7	4.7	4.7	4.7	4.8	0.8	1.4	0.4
East North Central	3.2	3.2	3.6	4.4	4.5	4 5	4.6	4.6	4.7	4.7	0.6	2.0	1.1
Ohio	2.7	2.9	3.4	4.2	4.3	4.3	4.4	4.5	4.6	4.6	1.2	2.1	1.5
Indiana	2.3	2.6	3.1	4.0	4.1	4.1	4.2	4.4	4.4	4.4	1.5	2.5	1.6
Illinois	3.4	3.6	4.0	4.7	4.7	4.7	4.8	4.9	4.9	5.0	0.8	1.6	1.0
Michigan	4.0	3.3	3.3	4.3	4.3	4.4	4.4	4.4	4.5	4.4	−1.0	2.6	0.4
Wisconsin	3.4	3.7	4.3	5.2	5.1	5.1	5.2	5.2	5.1	5.3	1.2	1.9	0.3
West North Central	3.1	3.7	4.3	5.7	5.6	5.6	5.7	5.8	5.8	5.8	1.6	2.8	0.3
Minnesota	3.9	4.4	4.8	6.1	5.8	5.8	5.9	6.0	6.0	6.0	1.0	2.4	−0.3
Iowa	2.7	3.2	3.9	5.6	5.8	5.7	5.8	5.9	6.0	5.9	1 8	3.6	0.9
Missouri	2.9	3.3	3.9	5.1	5.1	5.2	5.2	5.4	5.5	5.6	1.5	2.7	1.6
North Dakota	3.5	4.3	5.2	6.8	6.5	6.4	6.7	6.9	6.7	6.7	2.0	2.7	−0.2
South Dakota	2.8	4.4	4.5	5.6	5.6	5.4	5.5	5.6	5.5	5.6	2.4	2.2	—
Nebraska	3.4	4.2	4.4	6.2	6.3	6.0	6.0	6.1	6.1	6.2	1.3	3.4	—
Kansas	2.8	3.4	4.2	5.4	5.6	5.6	5.6	5.7	5.7	5.8	2.0	2.5	1.2
South Atlantic	2.5	2.8	3.3	4.0	4 1	4.1	4.2	4.2	4.3	4.4	1.4	1.9	1.6
Delaware	4.4	3.9	3.7	3.7	3.7	3.6	3.5	3.5	3.5	3.6	−0.9	—	−0.5
Maryland	3.9	3.6	3.3	3.1	3.1	3.1	3.1	3.2	3.2	3.3	−0.8	−0.6	1.0
District of Columbia	5.5	5.5	5.9	7.4	7.3	7.4	7.2	7.0	7.1	7.3	0.4	2.3	−0.2
Virginia	2.2	2.5	3.0	3.7	3.8	3.8	4.1	4.0	4.1	4.1	1.6	2.1	1.7
West Virginia	2.7	3.1	4.1	5.4	5.4	5.5	5.7	5.8	5.8	5.8	2.1	2.8	1.2

North Carolina	2.2	2.6	3.4	3.8	3.8	3.8	3.9	4.0	4.0	4.1	2.2	1.1	1.3
South Carolina	1.8	2.4	2.9	3.7	3.8	3.9	3.9	4.0	3.9	3.9	2.4	2.4	0.9
Georgia	1.7	2.0	2.8	3.8	4.0	4.0	4.2	4.3	4.4	4.5	2.5	3.1	2.8
Florida	2.8	2.9	3.1	4.4	4.5	4.5	4.6	4.5	4.9	5.1	0.5	3.5	2.5
East South Central	1.7	2.1	3.0	4.4	4.4	4.5	4.7	4.8	4.9	5.0	2.8	3.8	2.1
Kentucky	1.8	2.2	3.0	4.0	4.1	4.1	4.3	4.3	4.3	4.4	2.6	2.9	1.6
Tennessee	1.9	2.3	3.4	4.7	4.8	4.8	5.0	5.1	5.4	5.5	2.9	3.2	2.6
Alabama	1.5	2.0	2.8	4.3	4.2	4.4	4.6	4.8	4.9	4.9	3.1	4.3	2.2
Mississippi	1.4	1.7	2.9	4.4	4.6	4.5	4.7	4.7	4.9	5.0	3.6	4.2	2.1
West South Central	2.1	2.7	3.3	4.3	4.4	4.5	4.5	4.6	4.7	4.7	2.3	2.6	1.5
Arkansas	1.4	1.6	2.9	4.2	4.3	4.3	4.4	4.5	4.6	4.8	3.6	3.7	2.2
Louisiana	3.1	3.8	3.9	4.2	4.4	4.4	4.5	4.5	4.7	4.6	1.1	0.7	1.5
Oklahoma	1.9	2.5	3.2	4.5	4.6	4.5	4.5	4.6	4.6	4.6	2.6	3.4	0.4
Texas	2.0	2.7	3.3	4.3	4.4	4.5	4.5	4.6	4.7	4.7	2.5	2.6	1.5
Mountain	3.6	3.8	3.5	4.3	4.2	4.1	4.0	4.0	4.0	4.0	−0.1	2.1	−1.2
Montana	4.9	5.3	5.1	5.8	5.7	5.5	5.3	5.3	5.2	5.2	0.2	1.3	−1.8
Idaho	2.6	3.4	3.2	4.0	4.0	4.0	4.1	4.0	3.9	3.8	1.0	2.2	−0.9
Wyoming	3.5	3.9	4.6	5.5	5.0	5.0	4.8	4.7	4.5	4.4	1.4	1.8	−3.7
Colorado	3.9	4.2	3.8	4.6	4.6	4.3	4.2	4.1	4.4	4.4	−0.1	1.9	−0.7
New Mexico	2.7	2.2	2.9	3.5	3.7	3.4	3.4	3.4	3.4	3.3	0.4	1.9	−1.0
Arizona	3.4	4.0	3.0	4.1	4.0	3.9	3.9	3.9	3.8	3.8	−0.6	3.1	−1.3
Utah	3.2	2.9	2.8	3.6	3.5	3.3	3.2	3.2	3.2	3.2	−0.7	2.5	−2.0
Nevada	5.0	4.4	3.9	4.2	4.0	4.1	4.6	4.4	4.3	4.3	−1.2	0.7	0.4
Pacific	4.1	3.2	3.1	3.7	3.8	3.8	3.8	3.9	3.9	3.8	−1.4	1.8	0.4
Washington	3.4	3.6	3.3	3.5	3.4	3.5	3.5	3.4	3.4	3.4	−0.1	0.6	−0.5
Oregon	3.5	3.1	3.5	4.0	4.1	4.0	3.9	4.0	3.9	3.9	—	1.3	−0.4
California	4.4	3.3	3.0	3.8	3.8	3.8	3.9	4.0	4.0	3.9	−1.9	2.4	0.4
Alaska	...	...	2.4	2.3	2.3	2.4	2.3	2.2	2.2	2.2	...	−0.4	−0.7
Hawaii	...	...	3.7	3.4	3.4	3.4	3.3	3.2	3.3	3.1	...	−0.8	−1.5

[1] 1940 and 1950 data are estimated based on published figures.
[2] 1960 includes hospital units of institutions.
[3] Civilian noninstitutionalized population.

NOTE: Community hospitals include all non-Federal short-stay hospitals classified by the American Hospital Association to one of the following services: General medical and surgical; obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; other specialty; children's general; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedic; and children's other specialty.

SOURCES: American Medical Association: Hospital service in the United States. *JAMA* 116(11): 1055–1144, 1941, and 146(2): 109–184, 1951. (Copyright 1941 and 1951: used with the permission of the American Medical Association.); American Hospital Association: Hospitals. *JAHA* 35(15): 383–430, Aug. 1, 1961. (Copyright 1961: used with the permission of the American Hospital Association.); Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory; U.S. Bureau of the Census: *Current Population Reports.* Series P–25, Nos. 72, 304, 460, 640, and 642. Washington. U.S. Government Printing Office, 1953, 1965, 1971, and 1976; U.S. Bureau of the Census: Unpublished data.

Table 134. Community hospital beds in hospitals with fewer than 100 beds and average annual rate of change, according to geographic division and State: United States, 1970-76

(Data are based on reporting by facilities)

Geographic division and State	Year							Average annual rate of change 1970-76
	1970	1971	1972	1973	1974	1975	1976	
	Percent of community hospital beds in small hospitals							
United States	19 3	18 9	18.2	18.0	17.3	16.7	16.1	−3 0
New England	14.8	14 0	13.5	13.2	13.3	12.6	12 3	−3 1
Maine	47 5	45.5	41 2	38 3	42.7	42.3	39.9	−2 9
New Hampshire	28.7	29.9	29.9	28.9	25.9	27.6	24 7	−2.5
Vermont	40.0	40 2	31.9	35.0	35.2	30 3	32 8	−3.3
Massachusetts	10.2	9.0	9.1	8 9	8.7	8.1	7.8	−4 5
Rhode Island	5.9	6.5	6.2	3 4	3.5	3.4	3.4	−9.2
Connecticut	5.2	5 1	5.7	6 5	6.5	4.9	5.5	0.9
Middle Atlantic	6.3	5.9	5.4	5 3	5 1	5.0	4.7	−4.9
New York	6.9	6.5	6 0	5.8	5.3	5.3	4.9	−5.7
New Jersey	3.8	3 1	2 7	2 8	2.7	1.9	1 7	−13 4
Pennsylvania	6.6	6.2	5 7	5.7	6 1	6.1	6 0	−1.6
East North Central	12.4	12.3	11.8	11 7	11.3	11 2	10.5	−2.8
Ohio	9.8	9.6	9.4	9.4	9 0	9 1	8.7	−2.0
Indiana	15 6	14.3	13.9	12 6	12.5	12 6	12 3	−4.0
Illinois	8.9	8 7	8.5	8.6	8.3	8 1	7.6	−2.6
Michigan	13.9	14.3	14.2	14.0	13 6	13 9	13.2	−0.9
Wisconsin	19.9	20 9	18.0	18 8	17 8	16.9	14.8	−4.9
West North Central	29.0	29.9	29 1	28.8	27.6	26.9	26 7	−1.4
Minnesota	24.1	25.2	24.7	23 2	22.4	22 6	22.6	−1.1
Iowa	28.1	28.3	28.2	30 3	28.9	28.1	28.5	0.2
Missouri	20.1	21.1	18.6	18.0	17.3	16.7	16.7	−3.1
North Dakota	44.0	46.2	44 7	43.1	37 2	34.1	33.6	−4.5
South Dakota	46.5	42.9	47 2	43.5	42.2	43.7	43 0	−1.3
Nebraska	35 3	38.5	37 2	36.0	36 5	34.0	34.5	−0.4
Kansas	41 7	41.5	42.8	43 9	41.7	41.2	39.6	−0.9

South Atlantic	19.0	18.0	16.8	16.6	15.8	14.6	13.8	−5.3
Delaware	5.5	2.9	3.0	3.0	3.0	7.8	7.7	5.6
Maryland	7.4	6.7	4.5	4.4	4.8	4.3	4.4	−8.7
District of Columbia	1.4	1.5	1.5	1.5	1.6	1.6	1.6	2.2
Virginia	17.0	16.4	15.2	15.2	13.8	12.2	10.6	−7.9
West Virginia	30.4	29.8	27.7	26.8	25.3	25.4	24.2	−3.8
North Carolina	19.1	18.2	17.9	17.7	18.2	16.6	16.4	−2.5
South Carolina	22.4	23.3	20.9	20.8	18.7	18.7	17.9	−3.7
Georgia	28.9	27.4	26.0	25.6	24.2	24.4	22.9	−3.9
Florida	18.4	16.5	15.1	14.7	13.5	10.8	10.4	−9.5
East South Central	30.2	29.7	29.0	26.9	25.5	24.5	23.5	−4.2
Kentucky	26.6	25.9	26.6	23.4	22.2	24.1	23.5	−2.1
Tennessee	28.8	26.5	24.7	23.3	20.1	18.9	18.6	−7.3
Alabama	28.9	29.5	29.2	26.4	26.0	23.5	22.4	−4.2
Mississippi	39.5	40.6	40.4	39.3	39.3	37.6	34.7	−2.2
West South Central	32.5	32.4	31.5	31.4	30.1	28.7	27.3	−2.9
Arkansas	40.6	41.8	39.6	38.5	36.0	32.8	33.0	−3.5
Louisiana	25.9	27.8	27.4	27.7	26.1	24.4	22.8	−2.1
Oklahoma	36.6	36.6	35.9	36.6	35.4	33.0	30.6	−3.0
Texas	32.3	31.3	30.5	30.3	29.2	28.4	27.0	−3.0
Mountain	31.1	31.0	30.6	29.8	28.8	27.7	27.8	−1.9
Montana	41.9	41.5	40.0	41.3	40.6	39.9	38.5	−1.4
Idaho	43.9	43.2	41.7	37.4	37.9	37.7	39.8	−1.6
Wyoming	54.5	57.7	64.4	63.8	63.2	63.6	66.4	3.3
Colorado	22.3	21.3	21.2	21.5	19.1	19.3	19.5	−2.2
New Mexico	44.5	43.7	42.1	43.5	43.3	39.0	37.8	−2.7
Arizona	21.7	23.9	21.8	19.5	18.4	16.8	17.9	−3.2
Utah	27.4	26.1	27.5	27.5	28.2	28.0	26.0	−0.9
Nevada	31.6	30.6	32.2	30.0	29.7	27.7	27.1	−2.6
Pacific	25.5	23.9	23.4	23.2	21.9	21.2	20.2	−3.9
Washington	28.7	27.0	26.4	27.0	26.8	27.8	25.7	−1.8
Oregon	35.6	34.7	35.9	33.0	31.7	32.2	31.1	−2.3
California	23.7	22.0	21.5	21.5	20.2	19.0	18.1	−4.5
Alaska	75.7	77.2	62.2	62.1	62.0	64.2	57.8	−4.5
Hawaii	16.9	16.4	13.1	12.9	12.3	11.9	10.8	−7.5

NOTE: Community hospitals include all non-Federal short-stay hospitals classified by the American Hospital Association to one of the following services: General medical and surgical; obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; other specialty; children's general; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedic; and children's other specialty.

SOURCE: Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 135. Full-time equivalent employees per 100 average daily patients in community hospitals and average annual rate of change, according to geographic division and State: United States, 1960 and 1970–76

(Data are based on reporting by facilities)

Geographic division and State	Year								Period	
	1960[1]	1970	1971	1972	1973	1974	1975	1976	1960–70[1]	1970–76
	Number of employees per 100 average daily patients								Average annual rate of change	
United States	226	302	313	321	326	337	349	358	2 9	2.8
New England	249	351	368	379	382	394	412	424	3.4	3.1
Maine	227	289	317	322	330	344	359	379	2.4	4.5
New Hampshire	240	310	322	317	315	330	347	356	2 6	2.3
Vermont	227	318	340	322	329	331	346	339	3.4	1 1
Massachusetts	252	365	388	400	402	418	436	449	3 7	3.5
Rhode Island	270	383	392	396	400	412	433	449	3 5	2.6
Connecticut	247	347	349	371	376	380	397	408	3 4	2.7
Middle Atlantic	225	311	320	326	335	343	352	349	3.2	1 9
New York	233	336	347	348	360	368	375	363	3 7	1 3
New Jersey	225	278	276	289	294	301	308	313	2 1	2.0
Pennsylvania	214	287	300	311	315	325	340	347	2 9	3 2
East North Central	226	299	309	316	320	330	343	355	2 8	2 9
Ohio	232	302	310	317	321	326	334	344	2.6	2.2
Indiana	216	280	283	293	296	310	320	331	2.6	2.8
Illinois	226	301	309	319	325	337	357	373	2 9	3.6
Michigan	239	313	334	332	339	350	364	373	2.7	2 9
Wisconsin	199	277	289	300	295	305	315	326	3 3	2 7
West North Central	212	273	282	289	288	294	305	320	2.5	2.6
Minnesota	220	273	281	286	285	290	296	311	2.2	2 2
Iowa	208	258	266	273	274	282	293	313	2.2	3.2
Missouri	217	289	301	305	305	312	326	341	2 9	2.8
North Dakota	177	254	257	277	254	260	273	281	3.6	1.7
South Dakota	188	247	263	257	284	277	294	303	2 7	3.4
Nebraska	220	276	272	283	285	292	298	307	2 3	1.8
Kansas	210	270	287	296	289	294	313	328	2 5	3.2

South Atlantic	217	295	304	309	316	329	343	350	3.1	2.8
Delaware	243	328	346	361	377	367	390	390	3.0	2.9
Maryland	237	354	362	357	365	375	391	383	4.0	1.3
District of Columbia	240	363	371	369	370	416	443	464	4.1	4.1
Virginia	193	289	297	298	297	314	323	325	4.0	2.0
West Virginia	198	255	259	271	275	288	298	303	2.5	2.9
North Carolina	196	277	283	291	296	302	319	325	3.5	2.7
South Carolina	185	257	265	271	280	290	302	324	3.3	3.9
Georgia	233	294	309	323	335	353	364	373	2.3	4.0
Florida	245	295	305	310	321	332	346	354	1.9	3.0
East South Central	227	275	283	286	291	297	306	314	1.9	2.2
Kentucky	229	276	277	283	284	290	292	298	1.9	1.3
Tennessee	231	284	296	292	300	302	315	321	2.1	2.0
Alabama	233	266	284	288	291	298	308	319	1.3	3.0
Mississippi	207	270	267	276	283	292	300	314	2.7	2.5
West South Central	225	297	311	318	321	332	346	353	2.8	2.9
Arkansas	209	274	276	283	287	302	318	320	2.7	2.6
Louisiana	218	292	309	332	335	335	354	356	2.9	3.3
Oklahoma	218	296	309	310	317	339	359	375	3.1	3.9
Texas	232	304	317	322	323	335	346	353	2.7	2.5
Mountain	226	299	322	331	334	347	364	381	2.8	4.0
Montana	216	247	260	277	276	284	301	323	1.3	4.5
Idaho	255	281	298	303	285	301	321	343	1.0	3.3
Wyoming	217	251	275	289	305	307	344	350	1.5	5.5
Colorado	221	306	327	331	332	354	373	391	3.3	4.1
New Mexico	228	314	345	349	355	365	389	409	3.2	4.4
Arizona	222	327	358	361	372	381	381	390	3.9	2.9
Utah	243	304	331	341	349	351	388	406	2.2	4.8
Nevada	224	284	291	330	315	341	344	363	2.4	4.1
Pacific	243	327	339	356	369	387	401	418	3.0	4.1
Washington	263	313	331	347	352	368	382	400	1.7	4.1
Oregon	232	303	321	335	343	360	387	384	2.7	3.9
California	241	334	345	362	374	393	407	425	3.3	4.0
Alaska	220	301	324	364	368	403	385	458	3.1	7.0
Hawaii	226	278	283	299	369	373	357	411	2.1	6.5

[1] 1960 includes hospital units of institutions. Excludes students, interns, and residents.

NOTE: Community hospitals include all non-Federal short-stay hospitals classified by the American Hospital Association to one of the following services: General medical and surgical; obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; other specialty; children's general; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedic; and children's other specialty.

SOURCES: American Hospital Association: Hospitals. *JAHA* 35(15): 383–430, Aug. 1, 1961. (Copyright 1961: used with the permission of the American Hospital Association.); Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 136. Outpatient visits per 1,000 patient days in community hospitals and average annual rate of change, according to geographic division and State: United States, 1970–76

(Data are based on reporting by facilities)

Geographic division and State	Year							Average annual rate of change 1970-76
	1970	1971	1972	1973	1974	1975	1976	
	Outpatient visits per 1,000 patient days							
United States	568	622	666	693	738	738	769	5.0
New England	676	749	823	886	929	955	1,022	6 9
Maine	596	780	841	977	1,041	940	982	8.3
New Hampshire	811	865	1,044	998	1,092	1,070	1,158	5.9
Vermont	596	754	848	935	1,031	954	858	6 1
Massachusetts	704	742	774	844	899	940	1,005	5.9
Rhode Island	620	680	934	874	819	845	836	5.0
Connecticut	640	745	832	915	930	1,006	1,137	9 6
Middle Atlantic	647	732	796	838	886	906	929	6 0
New York	658	755	803	862	889	896	914	5 5
New Jersey	517	558	629	646	654	706	748	6 2
Pennsylvania	691	781	869	900	1,004	1,034	1,054	7 0
East North Central	513	562	609	643	707	732	779	7.0
Ohio	502	545	596	609	647	670	723	6.1
Indiana	484	545	592	628	714	741	804	8.5
Illinois	531	583	621	665	711	735	752	5.8
Michigan	588	634	690	750	849	885	985	8.6
Wisconsin	381	434	476	486	558	573	572	6.8
West North Central	373	401	430	447	472	499	532	5.9
Minnesota	309	311	313	329	371	387	432	5.6
Iowa	348	381	411	446	493	525	597	9.0
Missouri	468	504	539	545	538	573	591	3 9
North Dakota	150	179	202	198	203	211	237	7.6
South Dakota	314	332	342	371	377	308	332	0.9
Nebraska	264	293	329	369	399	401	434	8.3
Kansas	494	540	598	608	655	724	720	6.3

South Atlantic	547	585	632	651	683	697	690	3.9
Delaware	674	822	894	844	915	1,036	974	6.1
Maryland	809	834	875	928	951	991	937	2.4
District of Columbia	749	774	831	795	851	924	944	3.9
Virginia	557	525	543	560	670	682	655	2.7
West Virginia	635	701	700	732	761	792	795	3.7
North Carolina	509	546	607	628	648	664	708	5.5
South Carolina	456	519	534	558	591	608	663	6.2
Georgia	489	584	701	723	695	679	724	6.5
Florida	442	479	519	538	568	570	514	2.5
East South Central	401	439	472	452	473	498	520	4.3
Kentucky	448	468	522	526	529	558	587	4.5
Tennessee	441	461	479	464	472	526	534	3.2
Alabama	344	389	426	396	426	422	472	5.3
Mississippi	349	433	459	416	474	475	475	5.1
West South Central	442	477	511	511	556	528	573	4.3
Arkansas	306	368	404	434	466	432	441	6.1
Louisiana	693	698	717	758	856	756	874	3.9
Oklahoma	292	323	365	358	406	397	471	8.0
Texas	421	463	498	481	514	502	525	3.7
Mountain	525	594	635	689	779	781	911	9.2
Montana	337	368	386	446	501	538	595	9.5
Idaho	514	653	571	611	714	748	865	8.7
Wyoming	342	413	439	479	592	670	668	11.2
Colorado	532	589	681	760	900	856	918	9.1
New Mexico	435	606	616	607	727	690	973	13.4
Arizona	648	692	748	794	793	780	907	5.6
Utah	677	751	711	769	905	1,015	1,375	11.8
Nevada	395	408	533	581	665	633	691	9.3
Pacific	923	973	991	1,031	1,068	935	952	0.5
Washington	538	621	656	829	813	816	900	8.6
Oregon	612	747	797	967	1,037	773	809	4.7
California	1,006	1,042	1,044	1,038	1,076	954	966	−0.7
Alaska	747	722	986	998	1,247	1,388	999	4.8
Hawaii	1,230	1,295	1,543	1,918	2,085	1,324	1,229	0.0

NOTE: Community hospitals include all non-Federal short-stay hospitals classified by the American Hospital Association to one of the following services: General medical and surgical; obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; other specialty; children's general; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedic; and children's other specialty.

SOURCE: Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 137. Occupancy rate in community hospitals and average annual rate of change, according to geographic division and State: United States, selected years 1940–76

(Data are based on reporting by facilities)

Geographic division and State	Year									Period		
	1940[1]	1960[2]	1970	1971	1972	1973	1974	1975	1976	1940-60[1,2]	1960-70[2]	1970-76
	Percent of beds occupied									Average annual rate of change		
United States	69 9	74 7	77.3	75.9	74.8	75 0	74.9	74.2	73.9	0.3	0.3	−0.7
New England	72 5	75 2	79 7	77.9	76.8	77.6	77.5	77.6	77.5	0.2	0.6	−0.5
Maine	72 4	73.2	73.0	72.4	70.6	71.1	72.8	71.1	72.1	0.1	−0.0	−0.2
New Hampshire	65 3	66.5	73.4	69.7	71.3	72.8	72.4	71 4	71.3	0.1	1.0	−0.5
Vermont	68.8	68.5	76.3	75.5	71 4	73.1	73.2	70 7	74.5	−0.0	1.1	−0.4
Massachusetts	71.8	75.8	80 3	78.2	77.5	78.7	77 8	79.1	78.6	0.3	0.6	−0.4
Rhode Island	77.7	75 7	82 9	82 0	81.4	81 7	83 5	82.2	82.1	−0.1	0.9	−0.2
Connecticut	75.9	78 2	82 6	81 1	78.8	78 6	79.3	78.6	78.5	0.1	0.5	−0.8
Middle Atlantic	75.5	78.1	82 4	81.9	80.6	80.9	81.2	81.4	82 1	0.2	0.5	−0.1
New York	78 9	79.4	82.9	82 7	82.3	82.6	83.1	84 2	85.1	0.0	0.4	0.4
New Jersey	72 4	78.4	82.5	81.6	80.9	81.9	80 9	81.1	81.4	0.4	0.5	−0.2
Pennsylvania	71 3	76.0	81.5	80 7	78.1	77 8	78 5	77.2	77.8	0.3	0.7	−0.8
East North Central	71.0	78.4	79.5	78.4	77.3	77 8	77 9	77 2	76.6	0.5	0.1	−0.6
Ohio	72.1	81.3	81.8	81.0	80.2	80.3	80.8	80 6	80.2	0.6	0.1	−0.3
Indiana	68.5	79.6	80.3	79.2	77 5	76.8	76.4	76.4	76.7	0.8	0.1	−0.8
Illinois	73.1	76.0	79 3	78 2	76.5	77.8	77.4	75 7	75.4	0.2	0.4	−0.8
Michigan	71.5	80.5	80 6	78 9	78.8	79.2	79.3	78.8	77.3	0.6	0.0	−0.7
Wisconsin	65 2	73.9	73.2	72 6	70 6	71 5	71.9	71 5	70.9	0.6	−0.1	−0.5
West North Central	65 7	71.8	73.6	71.6	70.3	70.9	70.8	70.6	70.3	0.4	0.2	−0.8
Minnesota	71.0	72.3	73.9	72 2	71.3	70 8	70.7	70.7	70.9	0.1	0.2	−0.7
Iowa	63.6	72 6	71.9	68.4	67.0	67 0	67 4	67.4	67.9	0.7	−0.1	−1.0
Missouri	68 6	75.8	79 3	78.4	76.7	77 5	76.8	75.9	74.8	0.5	0.5	−1.0
North Dakota	61.9	71.3	67 1	65.6	62.1	66.1	65.3	69.1	68.9	0.7	−0.6	0.4
South Dakota	59.1	66.0	66.3	63.8	65.2	63.2	64.7	63 8	62.6	0.6	0.0	−1.0
Nebraska	59.0	65.6	69.9	67 6	67.1	68 0	67.1	65.8	66.1	0.5	0.6	−0.9
Kansas	60.4	69.1	71.4	69.0	66.8	69 2	69.8	69.9	69.2	0.7	0.3	−0.5

South Atlantic	66.7	74.8	77.9	76.4	76.1	75.8	75.5	73.9	73.5	0.6	0.4	−1.0
Delaware	59.2	70.2	78.8	74.3	74.9	79.3	82.3	81.0	81.1	0.9	1.2	0.5
Maryland	74.6	73.9	79.3	78.4	79.2	79.6	79.4	79.3	81.9	−0.0	0.7	0.5
District of Columbia	76.2	80.8	77.7	76.7	75.8	79.0	79.7	78.9	76.8	0.3	−0.4	−0.2
Virginia	70.0	78.0	81.1	78.6	79.8	78.2	78.7	77.4	76.3	0.5	0.4	−1.0
West Virginia	62.1	74.5	79.3	77.9	74.9	75.9	75.1	75.3	75.0	0.9	0.6	−0.9
North Carolina	64.6	73.9	78.5	77.9	78.2	77.5	77.7	77.4	77.5	0.7	0.6	−0.2
South Carolina	69.1	76.9	76.4	75.4	73.2	73.8	72.5	74.2	73.8	0.5	−0.1	−0.6
Georgia	62.7	71.7	76.5	73.4	73.1	72.9	70.4	68.2	68.0	0.7	0.6	−2.0
Florida	57.5	73.9	76.2	75.3	75.0	73.7	73.9	70.2	69.2	1.3	0.3	−1.6
East South Central	62.6	71.8	78.2	77.2	76.3	75.5	75.3	74.0	73.5	0.7	0.9	−1.0
Kentucky	61.6	73.4	79.6	78.5	77.9	75.4	75.8	77.3	77.1	0.9	0.8	−0.5
Tennessee	65.5	75.9	78.2	77.1	76.0	76.2	76.9	74.4	73.9	0.7	0.3	−0.9
Alabama	59.0	70.8	80.0	79.6	76.5	75.6	74.2	72.6	72.9	0.9	1.2	−1.5
Mississippi	63.8	62.8	73.6	72.2	74.6	73.8	73.1	71.4	69.4	−0.1	1.6	−1.0
West South Central	62.5	68.7	73.2	71.4	70.5	70.8	70.3	69.1	68.5	0.5	0.6	−1.1
Arkansas	55.6	70.0	74.4	74.5	73.3	73.7	72.4	70.3	68.9	1.2	0.6	−1.3
Louisiana	75.0	67.9	73.6	69.3	69.9	69.6	69.4	68.8	69.7	−0.5	0.8	−0.9
Oklahoma	54.5	71.0	72.5	71.2	70.6	69.7	69.8	69.3	67.1	1.3	0.2	−1.3
Texas	59.6	68.2	73.0	71.6	70.2	71.0	70.3	69.0	68.4	0.7	0.7	−1.1
Mountain	60.9	69.9	71.2	69.6	68.7	69.7	69.3	68.4	68.2	0.7	0.2	−0.7
Montana	62.8	60.3	65.9	64.8	64.4	63.1	61.6	61.4	59.6	−0.2	0.9	−1.7
Idaho	65.4	55.9	66.1	65.8	65.7	68.5	68.9	68.2	65.6	−0.8	1.7	−0.1
Wyoming	47.5	61.1	63.1	61.3	60.7	60.2	58.1	55.9	57.8	1.3	0.3	−1.5
Colorado	62.1	80.6	74.0	72.4	71.7	72.6	71.5	69.1	70.5	1.3	−0.9	−0.8
New Mexico	47.8	65.1	69.8	61.9	63.5	65.9	65.2	63.6	65.8	1.5	0.7	−1.0
Arizona	61.2	74.2	73.3	72.8	72.6	72.2	74.0	73.5	72.8	1.0	−0.1	−0.1
Utah	65.8	70.0	73.7	72.2	70.6	72.3	73.1	73.6	69.9	0.3	0.5	−0.9
Nevada	67.9	70.7	72.7	74.8	65.2	69.3	65.5	67.2	67.4	0.2	0.3	−1.3
Pacific	69.7	71.4	71.0	68.9	66.9	66.6	66.8	66.2	65.6	0.1	−0.1	−1.3
Washington	67.5	63.4	69.7	67.7	66.1	66.7	67.7	67.7	66.2	−0.3	0.9	−0.9
Oregon	71.2	65.8	69.3	67.4	66.8	66.7	66.9	66.6	66.4	−0.4	0.5	−0.7
California	69.9	74.3	71.3	69.1	67.1	66.7	66.8	66.0	65.4	0.3	−0.4	−1.4
Alaska	...	53.8	59.1	59.7	56.4	55.7	58.4	63.3	59.1	...	0.9	0.0
Hawaii	...	61.5	75.7	74.9	69.8	66.6	66.8	68.1	68.3	...	2.1	−2.3

[1] 1940 data are estimated based on published figures.
[2] 1960 includes hospital units of institutions.

NOTE: Community hospitals include all non-Federal short-stay hospitals classified by the American Hospital Association to one of the following services: General medical and surgical; obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; other specialty; children's general; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedic; and children's other specialty.

SOURCES: American Medical Association: Hospital Service in the United States. *JAMA* 116(11): 1055–1144, 1941. (Copyright 1941: used with the permission of the American Medical Association.); American Hospital Association: Hospitals. *JAHA* 35(15): 383–430, Aug. 1, 1961. (Copyright 1961: used with the permission of the American Hospital Association.); Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 138. Community hospitals in metropolitan and nonmetropolitan areas, according to selected characteristics, geographic division, and State: United States, 1976

(Data are based on reporting by facilities)

Geographic division and State	Selected characteristic													
	Number of hospitals		Number of beds		Percent of beds in small[1] hospitals		Beds per 1,000 resident population		Employees[2] per 100 average daily patients		Outpatient visits per 1,000 patient days		Occupancy rate[3]	
	Metropolitan	Nonmetropolitan	Metropolitan	Nonmetropolitan	Metropolitan	Nonmetropolitan	Metropolitan	Nonmetropolitan	Metropolitan	Nonmetropolitan	Metropolitan	Nonmetropolitan	Metropolitan	Nonmetropolitan
United States	3,025	3,029	718,958	254,962	6.6	42.7	4.6	4.3	374	305	801	666	76.3	67.4
New England	175	90	41,837	9,448	6.5	38.2	4 2	4.3	438	355	1,001	1,129	78.9	71.3
Maine	10	41	1,616	3,331	19.0	50.0	5.0	4.5	442	347	1,088	927	75.0	70.7
New Hampshire	8	19	1,291	2,062	8.2	35.0	3.1	5.0	346	363	1,002	1,265	75.2	68.9
Vermont	–	17	. . .	2,264	. . .	32.8	. . .	4.8	. . .	339	. . .	858	. . .	74.5
Massachusetts	114	6	25,576	754	7.1	28.9	4.6	3.5	452	350	900	1,530	78.7	74.8
Rhode Island	13	1	3,215	252	3.7	–	3.8	3.1	451	419	858	530	82.8	74.1
Connecticut	30	6	10,139	785	3.4	33.4	3.5	3.2	409	399	1,059	2,320	79.4	66.9
Middle Atlantic	523	147	150,414	21,093	3.0	16.7	4.7	4.3	356	299	937	869	82.7	77.8
New York	238	75	75,261	9,663	2.8	21.4	4.7	4.6	373	284	934	759	85.4	83.1
New Jersey	97	9	28,668	1,434	1.1	12.9	4 2	2.5	313	313	736	959	81.1	87.9
Pennsylvania	188	63	46,485	9,996	4.6	12.6	4.9	4.3	354	312	1,069	976	79.2	71.2
East North Central	530	399	148,571	44,618	4.1	31.7	4.8	4.5	370	296	801	694	78.9	69.1
Ohio	139	70	40,860	8,763	5.0	25.9	4.8	4 1	353	294	723	726	82.0	72.0
Indiana	58	57	16,452	7,092	5.6	27.8	4.8	3.7	340	309	800	814	79.6	70.1
Illinois	145	98	44,904	10,502	1.4	34.2	5.0	4.8	382	324	754	743	77.7	65.2
Michigan	133	82	32,787	7,508	6.2	43.9	4.4	4.4	387	309	1,021	808	78.8	70.7
Wisconsin	55	92	13,568	10,753	4.2	28.2	5.1	5.5	381	252	660	456	72.5	68.8
West North Central	185	638	53,264	44,461	4.0	54.0	6.3	5.3	344	287	566	482	75.9	63.7
Minnesota	54	117	15,484	8,149	5.6	54.9	6.2	5.6	342	243	457	377	74.0	65.0
Iowa	24	111	7,230	9,581	2.4	48.1	6.7	5.3	324	303	567	623	72.6	64.4
Missouri	68	88	19,243	7,386	4.0	49.9	6.3	4.2	348	319	629	474	77.9	66.7
North Dakota	3	49	711	3,552	–	40.3	8.7	6.3	338	268	213	243	79.9	66.7
South Dakota	3	57	742	3,062	3.9	52 5	7.4	5.2	318	298	190	378	78.8	58.7
Nebraska	15	87	4,727	4,787	0.2	68.3	6.8	5.6	337	269	468	392	73.5	58.8
Kansas	18	129	5,127	7,944	5.1	61.9	5.2	6.0	365	296	828	630	80.0	62.2

South Atlantic	418	429	101,248	46,794	5.9	31.0	4.5	4.0	369	305	683	705	74.7	71.1
Delaware	4	4	1,453	599	10.8	–	3.6	3.3	406	348	906	1,153	82.8	77.0
Maryland	38	13	11,379	2,200	1.9	17.2	3.2	3.5	393	331	916	1,049	82.4	79.3
District of Columbia	13	–	5,028	. . .	1.6	. . .	7.2	. . .	464	. . .	944	. . .	76.8	. . .
Virginia	53	50	13,305	6,830	4.2	23.2	4.0	3.9	336	304	634	699	77.7	73.6
West Virginia	20	53	4,607	5,940	5.5	38.8	7.0	5.1	312	295	618	948	79.4	71.6
North Carolina	41	92	10,537	11,236	7.6	24.6	4.2	3.8	360	289	757	658	80.6	74.5
South Carolina	24	51	5,175	5,764	8.2	26.6	3.8	3.9	371	279	711	618	75.4	72.4
Georgia	62	111	13,381	8,698	8.1	45.8	4.7	4.1	401	326	786	622	70.2	64.6
Florida	163	55	36,383	5,527	6.5	35.7	5.2	4.0	357	330	509	546	69.8	65.1
East South Central	163	347	37,802	29,781	7.6	43.6	5.5	4.4	334	286	563	460	76.5	69.8
Kentucky	32	78	7,918	6,884	5.5	44.2	5.1	3.7	309	285	553	629	80.3	73.4
Tennessee	63	91	15,576	7,551	6.1	44.4	6.2	4.4	340	278	570	451	76.4	68.9
Alabama	56	75	11,690	6,177	10.0	45.8	5.2	4.4	332	290	516	374	76.6	65.8
Mississippi	12	103	2,618	9,169	12.8	41.0	5.1	5.0	396	292	802	389	65.1	70.6
West South Central	379	494	69,228	29,399	12.4	62.4	4.8	4.3	368	311	611	469	71.8	60.8
Arkansas	17	78	4,014	6,061	10.0	48.2	6.1	4.2	347	300	507	392	74.1	65.5
Louisiana	59	82	12,811	4,801	5.8	68.2	5.3	3.4	371	311	918	738	72.4	62.4
Oklahoma	41	85	7,112	5,566	15.1	50.3	4.7	4.5	405	328	503	421	72.4	60.3
Texas	262	249	45,291	12,971	14.1	72.0	4.7	4.6	364	308	549	424	71.4	58.2
Mountain	97	276	22,975	15,607	5.6	60.5	4.0	3.8	405	337	966	811	74.0	59.6
Montana	4	56	985	2,908	–	51.6	5.4	5.1	312	328	562	609	73.4	55.0
Idaho	3	44	483	2,688	7.9	45.5	3.5	3.9	421	325	1,398	742	80.5	63.0
Wyoming	–	26	. . .	1,712	. . .	66.4	. . .	4.4	. . .	350	. . .	668	. . .	57.8
Colorado	29	54	8,139	2,942	2.6	66.2	4.4	4.0	404	348	938	855	72.9	63.8
New Mexico	7	32	1,531	2,323	4.6	59.8	3.9	3.0	491	345	1,214	780	73.5	60.7
Arizona	30	31	6,618	1,751	6.2	62.3	3.9	3.1	400	346	813	1,361	76.4	59.3
Utah	14	23	3,076	842	9.8	85.0	3.2	3.2	422	322	1,475	848	74.8	51.7
Nevada	10	10	2,143	441	12.0	100.0	4.4	3.8	376	292	701	631	69.1	59.2
Pacific	555	209	93,619	13,761	14.4	59.7	3.8	3.5	425	366	940	1,039	66.4	59.9
Washington	56	53	8,665	3,291	13.3	58.3	3.4	3.2	410	370	924	830	68.3	60.7
Oregon	31	48	5,479	3,584	15.8	54.4	3.9	3.9	397	360	713	980	70.2	60.5
California	456	85	77,391	5,565	14.6	67.1	3.9	3.6	428	374	960	1,053	65.8	59.7
Alaska	2	13	317	526	26.8	76.4	1.9	2.5	555	389	756	1,166	64.3	55.9
Hawaii	10	10	1,767	795	3.5	27.0	2.5	4.7	449	305	938	2,035	72.7	58.5

[1] Small hospitals are defined to be those hospitals having less than 100 beds.
[2] Full-time equivalent employees.
[3] Percent of beds which are occupied.

NOTE: Community hospitals include all non-Federal short-stay hospitals classified by the American Hospital Association to one of the following services: General medical and surgical; obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; other specialty; children's general; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedic; and children's other specialty. Counties are grouped according to the April 1973 Office of Management and Budget metropolitan-nonmetropolitan designations.

SOURCE: Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 139. Community hospitals, according to selected characteristics, geographic region, and location of hospital: United States, 1976

(Data are based on reporting by facilities)

Geographic region and location of hospital	Selected characteristic					
	Number of hospitals	Number of beds	Beds per 1,000 resident population	Employees[1] per 100 average daily patients	Outpatient visits per 1,000 patient days	Occupancy rate[2]
United States	6,054	973,920	4 5	358	769	73.9
Within SMSA	3,025	718,958	4 6	374	801	76.3
Large SMSA	1,605	399,593	4 6	391	865	76 8
Core counties	1,168	308,124	5 2	405	869	76 3
Fringe counties	437	91,469	3 3	345	852	78.4
Medium SMSA	965	223,346	4 5	358	751	76.2
Other SMSA	453	95,702	5 1	339	647	74.4
Outside SMSA	3,029	254,962	4.3	305	666	67 4
Adjacent to SMSA	1,300	120,134	4 0	305	724	68.2
Urbanized	407	57,475	4 2	316	809	71.7
Less urbanized	746	56,031	4 0	298	655	65.3
Thinly populated	147	6,628	2 7	260	496	63 1
Not adjacent to SMSA	1,716	134,302	4 8	304	611	66.7
Urbanized	330	47,726	5 3	323	639	71.4
Less urbanized	987	70,881	4.9	294	603	65.0
Thinly populated	399	15,695	3.4	280	549	59.5
Northeast	935	222,792	4 5	366	950	81.0
Within SMSA	698	192,251	4.5	373	950	81.8
Large SMSA	434	129,158	4 7	383	965	83.0
Core counties	295	95,572	5 5	403	969	83.0
Fringe counties	139	33,586	3 4	329	953	82.8
Medium SMSA	223	54,784	4 1	351	899	79.8
Other SMSA	41	8,309	4 4	357	1,057	78.5
Outside SMSA	237	30,541	4.3	315	944	75.8
Adjacent to SMSA	144	20,863	4.0	315	984	76.7
Urbanized	99	15,590	3.9	310	935	76.5
Less urbanized	42	5,141	4 5	327	1,137	77.4
Thinly populated	3	132	1 5	349	749	63.4
Not adjacent to SMSA	93	9,678	5 1	315	856	73 9
Urbanized	36	5,212	6.1	321	860	78.0
Less urbanized	48	3,876	4 4	307	798	69.5
Thinly populated	9	590	3.9	312	1,213	66.2

North Central	1,752	290,914
Within SMSA	715	201,835
Large SMSA	404	117,113
Core counties	260	86,786
Fringe counties	144	30,327
Medium SMSA	182	51,189
Other SMSA	129	33,533
Outside SMSA	1,037	89,079
Adjacent to SMSA	401	40,220
Urbanized	118	19,118
Less urbanized	244	18,924
Thinly populated	39	2,178
Not adjacent to SMSA	636	48,859
Urbanized	76	13,522
Less urbanized	374	28,269
Thinly populated	186	7,068
South	2,230	314,252
Within SMSA	960	208,278
Large SMSA	338	73,283
Core counties	228	52,930
Fringe counties	110	20,353
Medium SMSA	406	90,612
Other SMSA	216	44,383
Outside SMSA	1,270	105,974
Adjacent to SMSA	604	48,951
Urbanized	120	16,603
Less urbanized	400	28,730
Thinly populated	84	3,618
Not adjacent to SMSA	666	57,023
Urbanized	137	21,321
Less urbanized	403	29,806
Thinly populated	126	5,896

See footnotes at end of table.

5.0	344	700	74.5
5.1	363	741	78.1
4.9	380	787	78.9
5.6	394	793	79.5
3.7	340	771	77.0
5.0	346	695	77.7
6.0	328	643	75.9
4.9	291	592	66.4
4.4	295	700	67.6
4.9	312	809	71.5
4.1	286	622	63.6
3.5	207	331	68.4
5.4	289	501	65.4
6.0	321	502	71.0
5.6	281	515	64.4
4.0	250	437	58.5
4.6	343	618	72.0
4.8	362	637	74.1
4.5	387	704	73.4
5.3	392	678	72.1
3.3	374	770	77.0
4.9	354	628	75.0
5.1	340	546	73.2
4.2	301	576	67.9
3.8	299	567	66.3
4.4	307	615	70.1
3.9	296	538	64.8
2.3	291	566	61.5
4.5	302	582	69.2
5.4	313	605	73.2
4.6	295	573	67.4
2.8	293	539	63.3

Table 139. Community hospitals, according to selected characteristics, geographic region, and location of hospital: United States, 1976—Continued

(Data are based on reporting by facilities)

Geographic region and location of hospital	Selected characteristic					
	Number of hospitals	Number of beds	Beds per 1,000 resident population	Employees[1] per 100 average daily patients	Outpatient visits per 1,000 patient days	Occupancy rate[2]
West	1,137	145,962	3.8	408	941	66.3
Within SMSA	652	116,594	3.8	421	946	67.9
Large SMSA	429	80,039	4.0	429	962	66.8
Core counties	385	72,836	4.3	436	965	66.7
Fringe counties	44	7,203	2.3	364	932	68.1
Medium SMSA	154	26,761	3.5	419	970	69.8
Other SMSA	67	9,477	3.5	359	755	71.6
Outside SMSA	485	29,368	3 7	351	918	59.8
Adjacent to SMSA	151	10,100	3 1	358	983	62.0
Urbanized	70	6,164	3 0	377	1,005	63.9
Less urbanized	60	3,236	3.3	340	1,002	60.1
Thinly populated	21	700	4 0	259	667	54 7
Not adjacent to SMSA	321	18,742	4.1	345	874	58.7
Urbanized	81	7,671	4.1	361	839	62.8
Less urbanized	162	8,930	4.3	332	930	57.1
Thinly populated	78	2,141	3.5	338	770	50.1

[1] Full-time equivalent employees.

[2] Percent of beds which are occupied

NOTES: Community hospitals include all non-Federal short-stay hospitals classified by the American Hospital Association to one of the following services: General medical and surgical; obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; other specialty; children's general; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedic; and children's other specialty. Counties are grouped according to the April 1973 Office of Management and Budget metropolitan-nonmetropolitan designations. Alaska is excluded from the location categories. However, the Alaska state total is included in the West total, the United States total, and in the "Within SMSA" and the "Outside SMSA" categories.

SOURCE: Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 140. Long-stay hospitals and beds, according to type of service and ownership of hospital: United States, 1971 and 1976

(Data are based on reporting by facilities)

Year and type of ownership	All long-stay hospitals	Type of service					
		General	Psychiatric	Tuberculosis	Rehabilitation	Chronic disease	Other
1971	Number of hospitals						
All ownerships	821	54	427	99	57	82	102
Government	567	43	325	92	11	52	44
Federal	60	25	31	–	–	–	4
State-local	507	18	294	92	11	52	40
Proprietary	66	4	46	1	2	8	5
Nonprofit	188	7	56	6	44	22	53
Church	32	1	11	1	5	6	8
Other	156	6	45	5	39	16	45
1976							
All ownerships	614	35	356	19	52	63	89
Government	399	29	260	18	15	40	37
Federal	48	21	25	–	–	–	2
State-local	351	8	235	18	15	40	35
Proprietary	71	2	52	–	5	4	8
Nonprofit	144	4	44	1	32	19	44
Church	18	1	5	–	4	4	4
Other	126	3	39	1	28	15	40
1971	Number of beds						
All ownerships	507,719	26,092	409,736	17,806	6,817	23,717	23,551
Government	479,277	24,224	399,012	17,265	3,249	19,630	15,897
Federal	54,284	16,959	35,076	–	–	–	2,249
State-local	424,993	7,265	363,936	17,265	3,249	19,630	13,648
Proprietary	6,226	392	4,508	52	316	787	171
Nonprofit	22,216	1,476	6,216	489	3,252	3,300	7,483
Church	3,288	40	1,192	65	362	759	870
Other	18,928	1,436	5,024	424	2,890	2,541	6,613
1976							
All ownerships	302,072	18,237	230,694	3,401	7,183	19,933	22,624
Government	276,593	17,604	220,754	3,302	3,722	16,460	14,751
Federal	41,684	15,787	24,768	–	–	–	1,129
State-local	234,909	1,817	195,986	3,302	3,722	16,460	13,622
Proprietary	6,567	220	4,841	–	626	338	542
Nonprofit	18,912	413	5,099	99	2,835	3,135	7,331
Church	1,974	75	371	–	464	261	803
Other	16,938	338	4,728	99	2,371	2,874	6,528

SOURCE: Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 141. Mental health facilities, according to service mode and type of facility: United States, January 1976

(Data are based on reporting by facilities)

Type of facility	Number of mental health facilities	Service mode		
		Inpatient	Outpatient	Day treatment
		Number of facilities		
All facilities	3,495	2,289	2,329	1,458
Non-Federal psychiatric hospitals	487	487	207	195
State and county hospitals	304	304	147	118
Private hospitals	183	183	60	77
Veterans Administration psychiatric services	126	113	113	69
Neuropsychiatric hospitals	24	24	22	10
General hospital psychiatric units	102	89	91	59
Non-Federal general hospital psychiatric units	870	791	303	176
Government hospital psychiatric units	171	157	80	37
Private hospital psychiatric units	699	634	223	139
Residential treatment center for emotionally disturbed children	331	331	57	106
Federally-funded community mental health centers	528	528	528	528
Freestanding outpatient clinics	1,076	–	1,076	314
Government	429	–	429	111
Private	647	–	647	203
Other mental health facilities	77	39	45	70

SOURCE: National Institute of Mental Health: Unpublished data from the Division of Biometry and Epidemiology.

Table 142. Nursing homes and beds, according to type of care provided and ownership of home: United States, 1971 and 1976

(Data are based on reporting by facilities)

Type of ownership	1971			1976[2]		
	All homes	Nursing care	Personal care and other[1]	All homes	Nursing care	Personal care and other[2]
Nursing homes	Number					
All ownerships	22,004	12,871	9,133	20,185	13,312	6,873
Government	1,368	872	496	1,369	1,058	311
Federal	67	18	49	85	62	23
State-local	1,301	854	447	1,284	996	288
Proprietary	17,049	9,963	7,086	15,153	9,657	5,496
Nonprofit	3,587	2,036	1,551	3,663	2,597	1,066
Church	912	500	412	986	716	270
Other	2,675	1,536	1,139	2,677	1,881	796
Beds in nursing homes						
All ownerships	1,201,598	917,707	283,891	1,406,778	1,173,519	233,259
Government	122,972	91,708	31,264	154,684	131,057	23,627
Federal	5,764	1,557	4,207	6,385	5,639	746
State-local	117,208	90,151	27,057	148,299	125,418	22,881
Proprietary	803,696	663,031	140,665	952,795	807,856	144,939
Nonprofit	274,930	162,968	111,962	299,299	234,606	64,693
Church	81,336	43,655	37,681	91,400	69,053	22,347
Other	193,594	119,313	74,281	207,899	165,553	42,346

[1] Includes personal care homes with nursing, personal care homes without nursing, and domiciliary care homes.

[2] Provisional data. The change from Federal to State data collection in 16 States may have introduced changes in data collection procedures, coverage, definitions, and concepts between 1973 and 1976.

SOURCES: National Center for Health Statistics: *Health Resources Statistics, Health Manpower and Health Facilities, 1974.* DHEW Pub. No. (HRA) 75–1509. Health Resources Administration. Washington. U.S. Government Printing Office, 1974; *Health Resources Statistics, Health Manpower and Health Facilities, 1976–77.* Public Health Service, DHEW, Hyattsville, Md. To be published.

Table 143. Beds in nursing homes and beds per 1,000 resident population 65 years of age and over, according to type of home, geographic division, and State: United States, 1976

(Data are based on reporting by facilities)

Geographic division and State	Population 65 years and over in thousands	Number of beds	Type of home		
			Total	Nursing care	Personal care and other[1]
			Beds per 1,000 resident population		
United States	22,934	1,406,778	61.3	51.2	10.2
New England	1,400	102,647	73.3	56.9	16.4
Maine	128	8,644	67 5	50.5	17.0
New Hampshire	91	6,256	68 7	62.3	6 5
Vermont[2]	53	5,130	96.8	55 9	40.9
Massachusetts[2]	682	50,940	74 7	57 0	17.7
Rhode Island[2]	116	7,330	63.2	50 9	12.3
Connecticut	330	24,347	73.9	60.0	13.9
Middle Atlantic	4,259	201,144	47 2	38.3	8.9
New York	2,068	102,591	49.6	37.0	12.6
New Jersey	787	34,463	43.8	36.7	7 1
Pennsylvania[2]	1,404	64,090	45.6	41.3	4.4
East North Central	4,157	306,858	73 8	62.8	11.0
Ohio	1,089	64,096	58 9	53.0	5.8
Indiana	540	35,935	66 5	58 2	8.3
Illinois	1,171	87,805	75.0	63.0	12.0
Michigan[2]	834	66,416	79 6	60.9	18.7
Wisconsin[2]	523	52,606	100 6	90.3	10.3
West North Central	2,066	169,637	82 1	69.6	12.5
Minnesota[2]	445	43,036	96.7	81.9	14.8
Iowa	367	32,856	89.5	71.8	17.7
Missouri[2]	608	33,628	55 3	46.7	8.7
North Dakota	75	6,753	90 0	70 1	19.9
South Dakota	86	7,840	91.2	72.5	18.6
Nebraska[2]	196	23,022	117.5	108.8	8.7
Kansas	289	22,502	77.9	68.4	9.5
South Atlantic	3,707	153,602	41.4	33.6	7 9
Delaware	51	2,228	43.7	37.2	6.5
Maryland	350	18,874	53.9	47.3	6.7
District of Columbia	72	2,872	39.9	31.4	8.5

Virginia[2]	441	28,479	64.6	44.9	19.7
West Virginia	214	5,575	26.1	20.5	5.5
North Carolina[2]	513	24,432	47.6	25.7	21.9
South Carolina	240	8,642	36.0	33.9	2.1
Georgia	443	29,641	66.9	65.9	1.0
Florida	1,383	32,859	23.8	21.0	2.7
East South Central	1,473	68,837	46.7	39.4	7.3
Kentucky	373	20,543	55.1	36.8	18.3
Tennessee[2]	453	20,074	44.3	40.6	3.7
Alabama	388	19,281	49.7	45.0	4.7
Mississippi	259	8,939	34.5	32.8	1.8
West South Central	2,164	165,313	76.4	69.1	7.3
Arkansas	277	18,722	67.6	63.7	3.9
Louisiana	355	19,070	53.7	51.1	2.6
Oklahoma	339	26,103	77.0	73.5	3.5
Texas[2]	1,193	101,418	85.0	74.5	10.5
Mountain	880	49,720	56.5	50.0	6.5
Montana	77	5,299	68.8	61.0	7.8
Idaho[2]	81	4,823	59.5	49.1	10.4
Wyoming	34	1,791	52.7	45.5	7.2
Colorado[2]	218	22,708	104.2	94.1	10.1
New Mexico	94	3,042	32.4	25.9	6.4
Arizona[2]	235	5,914	25.2	23.2	2.0
Utah	94	4,569	48.6	42.5	6.1
Nevada	47	1,574	33.5	29.1	4.4
Pacific	2,830	188,993	66.8	52.9	13.9
Washington	374	30,079	80.4	70.7	9.7
Oregon	266	15,906	59.8	48.2	11.6
California	2,121	139,054	65.6	50.5	15.0
Alaska	9	782	86.9	76.7	10.2
Hawaii	60	3,172	52.9	42.1	10.8

[1] Includes personal care homes with nursing, personal care homes without nursing, and domiciliary care homes.

[2] The change from Federal to State Data collection in these States may have introduced changes in data collection procedures, coverage, definitions, and concepts between 1973 and 1976.

NOTE: Date are provisional.

SOURCE: National Center for Health Statistics: *Health Resources Statistics, Health Manpower and Health Facilities, 1976–77.* Public Health Service, DHEW, Hyattsville, Md. To be published.

Table 144 Inpatient health facilities other than hospitals and nursing homes, according to selected characteristics and type of facility: United States, 1976

(Data are based on reporting by facilities)

Type of facility	Selected characteristic					
	Number of facilities	Number of beds	Number of inpatient days of care	Number of residents	Occupancy rate[1]	FTE[2] employees per 100 beds
All facilities	6,280	375,805	119,323,686	326,021	86.8	73.9
Mentally retarded	1,875	182,454	59,839,902	163,497	89 6	81 8
Emotionally disturbed	1,543	62,687	19,550,622	53,417	85.2	87.3
Dependent children	867	40,133	12,002,604	32,794	81 7	47.4
Drug abusers or alcoholics	883	28,156	8,208,282	22,427	79 7	41.3
Deaf and/or blind	125	19,041	6,272,508	17,138	90 0	57.3
Unwed mothers	105	3,055	779,946	2,131	69.8	47.5
Physically handicapped	87	4,599	1,343,220	3,670	79.8	126.6
Multipurpose	508	23,860	7,537,404	20,594	86.3	66.7
All others	287	11,820	3,789,198	10,353	87.6	76.8

[1] Percent of beds which are occupied

[2] Full-time equivalent employees

SOURCE: Division of Health Manpower and Facilities Statistics, National Center for Health Statistics: Data from the Master Facility Inventory.

Table 145. Beds per 1,000 population in all hospitals and general hospitals: Selected countries, 1970 and most recent data year available

(Data are based on reporting by government administrations)

Country	1970		Most recent data year		
	All hospitals	General hospitals	Year	All hospitals	General hospitals
	Beds per 1,000 population			Beds per 1,000 population	
Canada	9.8	5.7	1975	9.2	5.7
United States	7.9	4.7	1976	6.7	4.9
Mexico	1.1	0.5	1974	1.2	0.8
Sweden	15 0	7.4	1975	15.1	7 2
England and Wales	9.2	---	1974	8.6	---
Netherlands	9.0	5.5	1976	---	4.8
German Democratic Republic	11.1	---	1976	10.7	8.5
German Federal Republic	11 1	6.5	1975	11.8	7.0
France	---	---	1974	---	8.1
Switzerland	11.2	6.1	1976	11.4	5.8
Italy	10.6	6.6	1974	10.5	7.4
Israel	5.9	3.4	1976	5.7	3 4
Japan	10.2	5.8	1975	10.4	6.4
Australia	12.0	---	1977	---	6.7

NOTE: Countries are grouped by continent. Definitions and inclusions of hospital beds may differ in various countries.

SOURCES: World Health Organization: *World Health Statistics Annual, 1970 and 1977,* Vol. III. Geneva. World Health Organization, 1974 and 1977; World Health Organization: Unpublished data; Bureau of Statistics, Office of the Prime Minister: *Japan Statistical Yearbook 1975 and 1977* 25th and 27th ed. Tokyo. Printing Bureau, Ministry of Finance, 1975 and 1977.

SECTION IV

Health Care Costs and Financing[a]

A. National Health Expenditures

During the fiscal year ending in September 1977,[1] the total amount spent for health in the United States rose by 12 percent to $162.6 billion, or an average of $736.92 per person. The 1977 increase, although large in comparison to the average annual increase of 10.1 percent since 1950, was significantly lower than increases during the 2 previous years. In 1977, spending on health amounted to 8.8 percent of the gross national product, compared with 8.7 percent in fiscal year 1976. Outlays by Federal, State, and local governments accounted for 42.1 percent of the total, compared with 42.4 percent during the year ending in September 1976 and 42.7 percent during the year ending in September 1975. This small reduction in the public share of total spending may reflect a stabilization of the long-term trend of increases from the figure of 24.5 percent recorded in 1965, the last year before implementation of the Medicare and Medicaid programs. By type of expenditure, the largest portion of outlays for health in 1977 was devoted to hospital services (40 percent), followed by physicians' services (20 percent), and nursing home care (8 percent).

The proportion of gross national product (GNP) devoted to health care in the United States ranks the Nation among the biggest spenders on health care in the world. The Organization for Economic Cooperation and Development (OECD) has prepared the most recent estimates of spending on health care for a number of industrialized countries; these apply mainly to the years 1974 and 1975. According to these estimates, the United States spent 7.4 percent of its resources on health, a larger proportion than the other nations for which data were compiled, followed closely by Sweden and the Netherlands at 7.3 percent each and France and Canada at 6.9 and 6.8 percent, respectively.

According to Social Security Administration estimates for 1969, Canada spent the highest proportion of its gross national product for health care (7.3 percent), followed by the United States (6.8 percent), and Sweden (6.7 percent). Estimates prepared by the

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[a] Prepared by James C. Daugherty and Linda A. Siegenthaler, Division of Extramural Research, National Center for Health Services Research.

[1] Among the several major changes in the Federal budget process mandated by the Congressional Budget Act of 1974 (Public Law 93–344) was a change in the Federal fiscal year from the 12-month period ending June 30 to the 12-month period ending September 30. This change was made fully effective beginning with fiscal year 1977. Hence, data are shown for the "official" fiscal year 1977—October 1976 through September 1977—and for the 2 previous years ending in September for comparison purposes.

NOTE: National health expenditures data, including public and personal health care expenditures found in subsections A, B, and C, are compiled by the Office of Policy, Planning, and Research, Financial and Actuarial Analyses, Health Care Financing Administration.

World Health Organization (WHO) for years in the early 1960's show a similar ranking by the percent of gross national product for health expenditures.[2]

Between 1929, the first year for which data are available, and 1977, the gross national product for the United States rose from $101.3 billion to $1.8 trillion, an average annual increase of 6.2 percent. During the same period, however, national health expenditures increased at an average rate of 8.3 percent per year, from $3.6 billion to $163 billion. Consequently, expenditures for health increased from 3.5 percent of the gross national product to nearly 9 percent. Per capita spending for health care, which was barely $29 in 1929, reached $737 in 1977, an average increase of 7 percent per year. Only about 16 percent of this long-term rise in health-related outlays was because of population increase. The remainder was mostly the result of price increases with some rise in per capita utilization.

The impact of inflation on health care expenditures, especially the sharply accelerated trend in health care prices during the past 11 years, is dramatically illustrated when expenditures data are deflated by the Consumer Price Index (CPI) rebased to 1950=100. The result is a rough estimate of what the change in expenditures since 1950 would have been had there been no price increase. Four categories of national health expenditures (i.e., total, hospital services, physicians' services, and dentists' services) have been deflated by four categories of the CPI (i.e., total medical care, semiprivate hospital room rates, physicians' fees, and dentists' fees). These deflated estimates represent the "real increases" in services.

Between 1950 and 1977, total expenditures for health rose at an average annual rate of 10.1 percent with larger increases occurring toward the end of the period. After adjustment for inflation, however, increases in expenditures averaged only 4.9 percent per year during that period. This means that more than half of the increase in expenditures since 1950 can be attributed to price change. Hospital expenditures, the most rapidly growing component of health care costs, rose at an average annual rate of 11 percent between 1950 and 1977. However, using the semiprivate room rate as a deflator to adjust for the effects of inflation, the annual increase in hospital expenditures was only 2.2 percent, or 19 percent of the total increase.

Expenditures for the services of physicians and dentists have increased at an annual rate of about 9.5 percent since 1950. Since adjustment for price changes reduces the increase in spending for these services to about 4.5 to 5 percent per year, only about half of the expenditure increase for physicians and dentists resulted from an increase in the amount of service. Although these calculations are only rough approximations, they illustrate how higher prices have affected the level of expenditures for health care.

The money spent on health care comes from both public and private sources. Benefits paid by private health insurance carriers (i.e., Blue Cross, Blue Shield, and commercial insurance companies) account for the largest private outlays for health care, followed by out-of-pocket expenditures paid directly to providers, and small amounts provided by industry and philanthropic organizations. Public programs include: Medicare and Medicaid, which pay for services provided to the aged, disabled, and the poor and which together account for slightly over one-half of public outlays for health care; programs that provide services directly to specified groups of beneficiaries, such as veterans, members of the armed services and their dependents, and migrant workers; and workmen's compensation benefits that are required by State laws but underwritten by private insurance carriers.

Prior to the enactment of Medicare and Medicaid in 1965, the public share of health care expenditures stood at about 25 percent. Since that time, public expenditures have

[2] World Health Organization and Social Security Administration estimates are based upon gross national product (GNP), a measure of the total value of goods and services produced by a nation's economy in a given year. Organization for Economic Cooperation and Development estimates are based on gross domestic product (GDP), which is the value of all goods and services, excluding imports, exports, and other international transactions.

risen by nearly 18 percent per year, compared with an average increase of 10 percent per year for private spending. Only during the last 2 years has the public share of expenditures apparently stabilized. Since 1965, public expenditures have increased from $48.48 per person to $310.13, while per capita private outlays have risen from $149.27 to $426.78.

Expenditures for hospital care have traditionally accounted for the largest share of the health care dollar, and this share continues to grow. By 1977, outlays for hospitals reached 40 percent of the total, compared with 31 percent in 1950. Between 1950 and 1977, expenditures for all health care rose by an average 10.1 percent per year. Hospitals and nursing home outlays increased at a greater than average rate as did expenses for the administration of health insurance plans. However, expenditures for physicians, dentists, and other providers increased at a below average rate. Consequently, institutional services—hospitals and nursing homes—have increasingly taken a larger share of the health care market at the expense of other types of services, a trend that recent legislation and policy have been attempting to reverse.

Third-party payments (i.e., all payments for health care that are not paid directly by the consumer) are growing in importance as a source of payment for personal health care. In the private sector, the majority of third-party payments are made by private health insurance carriers, supplemented to a small extent by industrial and philanthropic activities.

The majority of third-party payments by government sources are for Medicare, Medicaid, and programs that provide services directly to specified population groups. In 1977, third-party payments accounted for nearly 70 percent of the total financing of personal health care.

Private health insurance continues to be a major source of funds for families not eligible for coverage under government-sponsored programs. The share of personal health care expenditures provided by private health insurance, which was temporarily reduced after the passage of Medicare and Medicaid, has also increased in recent years. In 1976, benefits paid by private health insurance companies accounted for almost 28 percent of personal health care expenditures.

The government share of total expenditures for personal health care began to increase greatly in the mid-1960's, reaching 40 percent in 1977. This increase was accompanied by a decline in the relative importance of direct payments by consumers, particularly by the elderly and lower-income populations who were the major beneficiaries of new government-sponsored programs. The percent of personal health care expenditures paid by the Federal Government has been rising steadily each year since the enactment of Medicare and Medicaid, reaching 28 percent in 1977. However, the percent contributed by State and local governments has remained fairly constant at about 12 percent each year since the mid-1930's.

Table 146. Gross national product and national health expenditures: United States, selected fiscal years 1929–77

(Data are compiled by the Health Care Financing Administration)

Fiscal year	Gross national product in billions	National health expenditures		
		Amount in millions	Percent of gross national product	Amount per capita
Fiscal year ending June 30:				
1929	$ 101.3	$ 3,589	3.5	$ 29.16
1935	68.9	2,846	4.1	22.04
1940	95.4	3,883	4.1	28.98
1950	264.8	12,027	4.5	78.35
1955	381.0	17,330	4.5	103.76
1960	498.3	25,856	5.2	141.63
1965	658.0	38,892	5.9	197.75
1966	722.4	42,109	5.8	211.56
1967	773.5	47,879	6.2	237.93
1968	830.2	53,765	6.5	264.37
1969	904.2	60,617	6.7	295.20
1970	960.2	69,201	7.2	333.57
1971	1,019.8	77,162	7.6	368.25
1972	1,111.8	86,687	7.8	409.71
1973	1,238.6	95,383	7.7	447.31
1974	1,361.2	106,321	7.8	495.01
1975[1]	1,454.5	123,716	8.5	571.21
1976[1,2]	1,625.4	141,013	8.7	645.76
Fiscal year ending September 30:				
1975	1,487.1	127,719	8.6	588.48
1976	1,667.4	145,102	8.7	663.06
1977[2,3]	1,838.0	162,627	8.8	736.92

[1] Revised estimates.

[2] Federal fiscal year.

[3] Preliminary estimates.

SOURCES: Gibson, R.M., and Fisher, C.R.: National health expenditures, fiscal year 1977. *Social Security Bulletin* 41(7): 3–20, July 1978.

Table 147. Health expenditures as a percent of gross national product: Selected countries, selected periods, 1961–75

(Data are compiled from a number of government sources)

Country	Health expenditures					
	World Health Organization estimates		Social Security Administration estimates		Organization for Economic Cooperation and Development estimates	
	Year	Percent of gross national product	Year	Percent of gross national product	Year	Percent of gross national product[1]
Canada	1961	6.0	1969	7.3	1973	6.8
United States[2]	1961–62	5.8	1969	6.8	1974	7.4
Sweden	1962	5.4	1969	6.7	1974	7.3
Netherlands	1963	4.8	1969	5.9	1972	7.3
German Federal Republic[3]	1961	4.5	1969	5.7	1974	6.7
France	1963	4.4	1969	5.7	1974	6.9
United Kingdom	1961–62	4.2	1969	4.8	1975	5.2
Australia	---	---	---	---	[4]1975–76	6.5
Finland	---	---	---	---	1975	5.8
Japan	---	---	---	---	1975	4.0

[1] Percent of trend gross domestic product at current prices, 1974 or near date.

[2] Figures differ slightly from official Social Security Administration estimates because of adjustment to account for expenditures in medical education.

[3] Excluded from World Health Organization study. Figure for 1961 is Social Security Administration estimate.

[4] Fiscal year 1975–76.

NOTE: The countries are ranked by percent of gross national product for health expenditures from the largest to the smallest.

SOURCES: Abel-Smith, B.: *An International Study of Health Expenditures.* World Health Organization Public Health Paper No. 32. Geneva. World Health Organization, 1967; Simanis, J.G.: Medical care expenditures in seven countries. *Social Security Bulletin* 36(3): 39, Mar. 1973; Organization for Economic Cooperation and Development: *Public Expenditure on Health.* Paris. Organization for Economic Cooperation and Development, 1977. p. 10.

Table 148. National health expenditures and average annual percent change, according to type of expenditure in current and 1950 dollars: United States, selected fiscal years 1950–77

(Data are compiled by the Health Care Financing Administration)

Fiscal year and period	Type of expenditure							
	All health expenditures[1]		Hospital		Physician		Dentist	
	Current dollars	1950 dollars	Current dollars	1950 dollars	Current dollars	1950 dollars	Current dollars	1950 dollars
	Amount in millions							
Fiscal year ending June 30:								
1950	$ 12,027	$12,027	$ 3,698	$3,698	$ 2,689	$2,689	$ 940	$ 940
1955	17,330	14,346	5,689	4,081	3,632	3,091	1,457	1,263
1960	25,856	17,613	8,499	4,557	5,580	4,012	1,944	1,505
1965	38,892	23,345	13,152	5,286	8,405	5,296	2,728	1,896
1970	69,201	31,427	25,879	5,627	13,443	6,285	4,473	2,431
1971	77,162	32,765	29,133	5,593	15,098	6,564	4,908	2,516
1972	86,687	35,153	32,720	5,740	16,527	6,832	5,364	2,601
1973	95,383	37,523	36,155	6,039	17,995	7,253	6,101	2,871
1974	106,321	39,569	41,020	6,467	19,742	7,579	6,870	3,096
1975	123,716	40,925	48,376	6,551	23,839	8,114	7,870	3,201
1976[2]	141,013	42,346	55,573	6,534	27,487	8,401	8,733	3,298
Fiscal year ending September 30:								
1975	127,719	41,121	49,973	6,509	24,553	8,141	8,034	3,194
1976	145,102	42,602	57,497	6,553	28,504	8,478	8,987	3,346
1977[2]	162,627	43,530	65,627	6,678	32,184	8,731	10,020	3,479
	Average annual percent change							
1950–77	10.1	4.9	11.2	2.2	9.6	4.5	9.2	5.0
1950-55	7 6	3.6	9.0	2.0	6.2	2.8	9.2	6.1
1955-60	8.3	4.2	8.4	2.2	9.0	5.3	5.9	3.6
1960-65	8.5	5.8	9.1	3.0	8.5	5.7	7.0	4.7
1965-70	12.2	6.1	14.5	1.3	9.8	3.5	10.4	5.1
1970-75	11.4	4.5	12.5	2.3	10.5	3.7	10.9	4.7
1970-71	11.5	4.3	12.6	−0.6	12.3	4.4	9.7	3.5
1971-72	12.3	7.3	12.3	2.6	9.5	4.1	9.3	3.4
1972-73	10.0	6.7	10.5	5.2	8.9	6.2	13.7	10.4
1973-74	11 5	5.5	13.5	7.1	9.7	4.5	12.6	7.8
1974-75	15 0	2.2	17.6	1 0	16.1	3.0	13.7	2.6
1975-76	14.0	3.5	14.9	−0.3	14.9	3.2	10.1	2.2
1976-77[3]	12.1	2.2	14.1	1.9	12.9	3.0	11.5	4.0

[1] Includes all other expenditures not shown separately

[2] Federal fiscal year.

[3] Percent change based on data for fiscal year ending September 30; all other years based on data for fiscal year ending June 30.

NOTE: Expenditures in 1950 dollars were calculated by deflating current dollar expenditures by the Consumer Price Indexes for medical care, hospital room rates (semiprivate), physician fees, and dentist fees.

SOURCES: Gibson, R. M., and Fisher, C. R.: National health expenditures, fiscal year 1977. *Social Security Bulletin* 41(7): 3–20, July 1978; Office of Policy, Planning, and Research, Health Care Financing Administration: Selected data.

Table 149. National health expenditures, according to source of funds: United States, selected fiscal years 1929-77
(Data are compiled by the Health Care Financing Administration)

Fiscal year	All health expenditures in millions	Source of funds					
		Private			Public		
		Amount in millions	Amount per capita	Percent of total	Amount in millions	Amount per capita	Percent of total
Fiscal year ending June 30:							
1929	$ 3,589	$ 3,112	$ 25.28	86.7	$ 477	$ 3.88	13.3
1935	2,846	2,303	17.84	80.9	543	4.21	19.1
1940	3,883	3,101	23.14	79.9	782	5.84	20.2
1950	12,027	8,962	58.38	74.5	3,065	19.97	25.5
1955	17,330	12,909	77.29	74.5	4,421	26.46	25.5
1960	25,856	19,461	106.60	75.3	6,395	35.03	24.7
1965	38,892	29,357	149.27	75.5	9,535	48.48	24.5
1966	42,109	31,279	157.15	74.3	10,830	54.41	25.7
1967	47,879	32,026	159.15	66.9	15,853	78.78	33.1
1968	53,765	33,725	165.83	62.7	20,040	98.54	37.3
1969	60,617	37,680	183.50	62.2	22,937	111.70	37.8
1970	69,201	43,810	211.18	63.3	25,391	122.39	36.7
1971	77,162	48,387	230.92	62.7	28,775	137.32	37.3
1972	86,687	53,214	251.50	61.4	33,473	158.20	38.6
1973	95,383	58,715	275.35	61.6	36,668	171.96	38.4
1974	106,321	64,809	301.74	61.0	41,512	193.27	39.0
1975[1]	123,716	71,348	329.42	57.7	52,368	241.79	42.3
1976[1,2]	141,013	80,831	370.16	57.3	60,182	275.60	42.7
Fiscal year ending September 30:							
1975	127,719	73,238	337.45	57.3	54,481	251.03	42.7
1976	145,102	83,560	381.84	57.6	61,542	281.22	42.4
1977[2,3]	162,627	94,185	426.78	57.9	68,442	310.13	42.1

[1] Revised estimates.
[2] Federal fiscal year.
[3] Preliminary estimates.

SOURCES: Gibson, R. M., and Fisher, C. R.: National health expenditures, fiscal year 1977. *Social Security Bulletin* 41(7): 3–20, July 1978.

Table 150. National health expenditures average annual percent change, according to source of funds: United States, selected fiscal years 1929–77

(Data are compiled by the Health Care Financing Administration)

Period	Source of funds		
	All sources	Private	Public
	Average annual percent change		
1929–77	8.3	7.4	10.9
1929–35	−3.8	−4.9	2.2
1935–40	6.4	6.1	7.6
1940–50	12.0	11.2	14.6
1950–55	7.6	7.6	7.6
1955–60	8.3	8.6	7.7
1960–65	8.5	8.6	8.3
1965–70	12.2	8.3	21.6
1970–75	12.1	10.2	14.9
1970–71	11.5	10.4	13.3
1971–72	12.3	10.0	16.3
1972–73	10.0	10.3	9.5
1973–74	11 5	10.4	13.2
1974–75	15.0	10.1	22.5
1975–76	14.0	12 8	15.6
1976–77[1]	12.1	12.7	11.2

[1] Percent change based on data for fiscal year ending September 30, all other years based on data for fiscal year ending June 30.

SOURCES: Gibson, R. M., and Fisher, C. R.: National health expenditures, fiscal year 1977. *Social Security Bulletin* 41(7): 3–20, July 1978.

Table 151. National health expenditures and percent distribution, according to type of expenditure: United States, selected fiscal years 1950–77

(Data are compiled by the Health Care Financing Administration)

Type of expenditure	Year						
	1950	1955	1960	1965	1970	1975[1]	1977[1,2]
	Amount in billions						
Total	$12.0	$17.3	$25.9	$38.9	$69.2	$127.7	$162.6
Health services and supplies	11.2	16.4	24.2	35.7	64.1	119.8	153.9
Hospital care	3.7	5.7	8.5	13.2	25.9	50.0	65.6
Physician services	2.7	3.6	5.6	8.4	13.5	24.6	32.2
Dentist services	0.9	1.5	1.9	2.7	4.5	8.0	10.0
Nursing home care	0.2	0.3	0.5	1.3	3.8	9.6	12.6
Other professional services	0.4	0.5	0.9	1.0	1.4	2.5	3.2
Drugs and drug sundries	1.6	2.3	3.6	4.6	7.1	10.6	12.5
Eyeglasses and appliances	0.5	0.6	0.8	1.1	1.8	1.8	2.1
Expenses for prepayment	0.4	0.6	1.0	1.5	2.5	6.0	7.6
Public health activities	0.4	0.4	0.4	0.7	1.4	3.1	3.7
Other health services	0.4	0.9	1.0	1.2	2.2	3.6	4.3
Research and construction	0.8	0.9	1.7	3.2	5.1	7.9	8.7
Research	0.1	0.2	0.6	1.4	1.8	3.1	3.7
Construction	0.7	0.7	1.1	1.8	3.3	4.8	5.0
	Percent distribution						
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Health services and supplies	93.3	94.8	93.4	91.8	92.6	93.8	94.6
Hospital care	30.8	32.9	32.8	33.9	37.4	39.1	40.3
Physician services	22.5	20.8	21.6	21.6	19.5	19.3	19.8
Dentist services	7.5	8.7	7.3	6.9	6.5	6.3	6.2
Nursing home care	1.7	1.7	1.9	3.4	5.5	7.5	7.7
Other professional services	3.4	2.9	3.5	2.6	2.0	2.0	2.0
Drugs and drug sundries	13.3	13.3	13.9	11.8	10.3	8.3	7.7
Eyeglasses and appliances	4.2	3.5	3.1	2.8	2.6	1.4	1.3
Expenses for prepayment	3.3	3.5	3.9	3.9	3.6	4.7	4.7
Public health activities	3.3	2.3	1.5	1.8	2.0	2.4	2.3
Other health services	3.3	5.2	3.9	3.1	3.2	2.8	2.6
Research and construction	6.7	5.2	6.6	8.2	7.4	6.2	5.4
Research	0.9	1.2	2.3	3.6	2.6	2.4	2.3
Construction	5.8	4.0	4.3	4.6	4.8	3.8	3.1

[1] Data for fiscal year ending September 30; all other data for fiscal year ending June 30.
[2] Preliminary estimate.

SOURCES: Gibson, R. M., and Fisher, C. R.: National health expenditures, fiscal year 1977. *Social Security Bulletin* 41(7):3–20, July 1978; Office of Policy, Planning, and Research, Health Care Financing Administration: Selected data.

Table 152. National health expenditures average annual percent change, according to type of expenditure: United States, selected fiscal years 1950–77

(Data are compiled by the Health Care Financing Administration)

Type of expenditure	Period					
	1950-77	1950-60	1960-65	1965-70	1970-75	1975-77[1]
	Average annual percent change					
Total	10.1	8.0	8.5	12.2	12.3	12.8
Health services and supplies	10.2	8.0	8.1	12.4	12.6	13.3
Hospital care	11.2	8.7	9.2	14.4	13.3	14.5
Physician services	9.6	7.6	8.4	9.8	12.2	14.4
Dentist services	9.3	7.8	7.3	10.8	11.9	11.8
Nursing home care	16.6	9.6	21.1	23.9	19.6	14.6
Other professional services	8.0	7.2	4.6	7.0	11.4	13.1
Drugs and drug sundries	7.9	8.4	5.0	9.1	7.9	8.6
Eyeglasses and appliances	5.5	4.8	8.4	8.4	0.0	8.0
Expenses for prepayment	12.7	10.3	8.4	11.8	22.5	12.5
Public health activities	8.6	0.0	11.8	14.9	16.5	9.3
Other health services	8.3	10.0	1.5	13.2	6.1	9.3
Research and construction	9.2	7.8	13.5	9.8	8.3	4.9
Research	14.3	19.6	18.4	5.2	10.8	9.3
Construction	7.6	4.6	10.3	12.9	6.9	2.1

[1] Data for fiscal year ending September 30; all other data for fiscal year ending June 30.

SOURCES: Gibson, R. M., and Fisher, C. R.: National health expenditures, fiscal year 1977. *Social Security Bulletin* 41(7): 3–20, July 1978; Office of Policy, Planning, and Research, Health Care Financing Administration: Selected data.

Table 153. Personal health care expenditures and percent distribution, according to source of payment: United States, selected fiscal years 1929–77

(Data are compiled by the Health Care Financing Administration)

Fiscal year	All personal health care expenditures[1]	Source of payment						
		Direct payment	Third-party payment					
			Total	Private health insurance	Philanthropy and industry	Government		
						Total	Federal	State and local
Fiscal year ending June 30:	Aggregate amount in millions							
1929	$ 3,165	[2]$ 2,800	$ 365	—	$ 83	$ 282	$ 85	$ 197
1935	2,585	[2]2,134	452	—	70	382	89	293
1940	3,414	[2]2,799	615	—	92	523	133	389
1950	10,400	7,107	3,293	$ 879	312	2,102	979	1,124
1955	15,231	8,992	6,239	2,358	412	3,469	1,583	1,886
1960	22,729	12,576	10,153	4,698	525	4,930	2,102	2,828
1965	33,498	17,577	15,921	8,280	683	6,958	2,840	4,118
1970	60,113	24,272	35,841	14,406	890	20,545	13,403	7,142
1971	67,228	26,307	40,921	16,728	964	23,229	15,401	7,827
1972	74,828	28,141	46,687	18,620	1,035	27,032	18,126	8,906
1973	82,490	30,348	52,142	20,955	1,125	30,062	20,178	9,884
1974	91,315	32,989	58,326	23,050	1,220	34,056	22,974	11,082
1975[3]	107,383	33,503	73,880	28,075	2,362	43,443	28,926	14,517
1976[3,4]	122,453	38,450	84,003	32,119	2,625	49,259	33,846	15,413
Fiscal year ending September 30:								
1975	110,665	34,697	75,968	28,514	2,419	45,035	30,290	14,745
1976	126,217	39,425	86,792	33,618	2,698	50,478	34,990	15,488
1977[4,5]	142,586	43,274	99,312	39,299	2,891	57,121	39,823	17,299
Fiscal year ending June 30:	Percent distribution							
1929	100.0	88.5	11.5	—	2.6	8.9	2.7	6.2
1935	100.0	82.6	17.5	—	2.7	14.8	3.4	11.3
1940	100.0	82.0	18.0	—	2.7	15.3	3.9	11.4
1950	100.0	68.3	31.7	8.5	3.0	20.2	9.4	10.8
1955	100.0	59.0	41.0	15.5	2.7	22.8	10.4	12.4
1960	100.0	55.3	44.7	20.7	2.3	21.7	9.2	12.4
1965	100.0	52.5	47.5	24.7	2.0	20.8	8.5	12.3
1970	100.0	40.4	59.7	24.0	1.5	34.2	22.3	11.9
1971	100.0	39.1	60.9	24.9	1.4	34.6	22.9	11.6
1972	100.0	37.6	62.4	24.9	1.4	36.1	24.2	11.9
1973	100.0	36.8	63.2	25.4	1.4	36.4	24.5	12.0
1974	100.0	36.1	63.9	25.2	1.3	37.3	25.2	12.1
1975[3]	100.0	31.2	68.8	26.2	2.2	40.5	27.7	12.8
1976[3,4]	100.0	31.4	68.6	26.2	2.1	40.2	27.6	12.4
Fiscal year ending September 30:								
1975	100.0	31.4	68.6	25.8	2.2	40.7	27.4	13.3
1976	100.0	31.2	68.8	26.6	2.1	40.0	27.7	12.3
1977[4,5]	100.0	30.3	69.7	27.6	2.0	40.1	27.9	12.2

[1] Includes all expenditures for health services and supplies other than (a) expenses for prepayment and administration; (b) government public health activities; and (c) expenditures on fundraising by philanthropies.

[2] Includes any insurance benefits and expenses for prepayment (insurance premiums less insurance benefits).

[3] Revised estimates.

[4] Federal fiscal year.

[5] Preliminary estimates.

SOURCES: Gibson, R. M., and Fisher, C. R.: National health expenditures, fiscal year 1977. *Social Security Bulletin* 41(7): 3–20, July 1978; Office of Policy, Planning, and Research, Health Care Financing Administration: Selected data.

B. Government Expenditures for Health Care

During fiscal year 1977, public expenditures for health accounted for 42 percent of national health expenditures. Public expenditures financed by Federal, State, and local government have been increasing steadily since the implementation of Medicare and Medicaid, the two largest public programs. Payments for health care are made under a variety of public programs designed to deliver care or improve access to care for targeted population groups.

Health services and supplies expenditures are defined as the total national health expenditures less expenses for research and health facilities construction. Government expenditures in this area reached an estimated $62.6 billion during the year ending September 1977. Medicare and Medicaid expenditures accounted for about 62 percent of this total. The next biggest proportion (13 percent) was for general hospital and medical care, which includes hospital and medical care provided directly by the Federal Government through the Indian Health Service Program and other parts of the U.S. Public Health Service and also outlays by State and local governments for hospital care, largely psychiatric care. Federal outlays for veterans and military personnel and their dependents make up the next largest category, followed by expenditures, mainly at the State and local levels, for other activities related to public health.

Nearly 60 percent of public expenditures, or $36.2 billion, were devoted to hospital care, with the largest amounts (both absolutely and proportionally) generated by the Medicare program. Physicians' services accounted for $7.8 billion, or 12 percent of the total, followed closely by outlays for nursing home care at $7.2 billion or 11 percent. Most of the outlays for nursing home care were made under the Medicare and Medicaid programs, with Medicaid accounting for $6.4 billion, or 89 percent, of the public expenditures for nursing homes.

Between 1965 and 1977, medical care appropriations of the Veterans Administration health care delivery system increased at an annual rate of 12 percent, reaching $4.4 billion in fiscal year 1977 or 10 percent of Federal health expenditures. Prior to implementation of Medicare and Medicaid in 1965, the Veterans Administration share was 23 percent. During this 12-year period, a large part of the Veterans Administration appropriations were for institutional services; however, there was a shift away from inpatient hospital care and toward nursing home and domiciliary care.

Medicare benefits are equal in all States. However, differences in the average expenditure per Medicare enrollee do exist among the States and geographic regions because of differences in the allowable costs and charges in each area and in the service utilization levels of enrollees. In 1971 and 1976, per capita reimbursements for hospital services were highest in the Northeast and lowest in the South; average reimbursement per person for supplementary medical insurance was highest in the West and lowest in the North Central Region. Massachusetts, New York, Nevada, and California were the States with the highest average reimbursement levels in 1976.

Medicaid, a federally-assisted program operated by the States under Federal guidelines, provides medical services and improves access to medical care for certain low income populations. While Federal and State Governments jointly finance the program, each State determines benefits, eligibility criteria, and rates of payment. Under Medicaid, differences in levels of expenditures by State and Federal administrative regions are partly attributable to differences in allowable charges and utilization patterns. In addition, although all States meet the Federal guidelines for providing hospital and physician services, benefits vary from State to State with some offering supplementary services such as dental services, clinic services, and drugs. The 10 largest State Medicaid programs accounted for 67 percent of total Medicaid expenditures in 1976; the New York and California programs alone accounted for 34 percent. New York and California have relatively large eligible populations and also offer more benefits to recipients than many other States.

Medicaid generally covers a broader range of services than Medicare including intermediate care facilities, dental services, and drugs. About 69 percent of Medicaid expenditures in 1976 were for institutional health services (i.e., hospitals, skilled nursing homes, and intermediate care facilities) compared with 74 percent in 1967. Although the proportion of Medicaid expenditures for institutional health services remained fairly constant from 1966 to 1977, there was a decrease in the share for both inpatient hospital and skilled nursing facility care and an increase in the share for intermediate care facilities. In 1977, only 10 percent of Medicaid expenditures were devoted to physician expenditures and 7 percent to drugs.

Table 154. Estimated health services and supplies expenditures under public programs, according to source of public funds and type of program: United States, fiscal year 1977

(Data are compiled by the Health Care Financing Administration)

Source of public funds and type of program	Health services and supplies										
	Total	Hospital care	Physician services	Dentist services	Other professional services	Drugs and drug sundries	Eyeglasses and appliances	Nursing home care	Public health activities	Other health services	Administration
	Amount in millions										
All public programs	$62,594	$36,199	$7,824	$500	$924	$1,143	$130	$7,184	$3,729	$3,217	$1,743
Health insurance for aged and disabled, Medicare[1,2]	21,591	15,520	4,431	–	457	–	–	362	–	–	821
Temporary disability insurance (medical benefits)[1]	103	74	25	–	2	1	1	–	–	–	–
Workmen's compensation (medical benefits)[1]	2,609	1,315	1,109	–	80	52	52	–	–	–	–
Medicaid	17,103	5,964	1,827	398	325	1,016	–	6,380	–	346	846
Public assistance (vendor medical payments)[2]	517	190	58	13	10	32	–	203	–	11	–
General hospital and medical care	8,296	6,877	21	4	–	3	–	–	–	1,391	–
Defense Department hospital and medical care (including military dependents)[4]	3,392	2,459	91	8	–	12	–	–	–	791	31
Maternal and child health services	637	97	60	15	49	14	19	–	–	378	5
Other public health activities	3,729	–	–	–	–	–	–	–	3,729	–	–
Veterans' hospital and medical care[4]	4,334	3,589	58	63	–	13	31	238	–	302	40
Medical vocational rehabilitation	283	115	142	–	–	–	27	–	–	–	–
Federal programs	42,542	25,715	5,808	310	683	614	66	4,204	1,289	2,424	1,430
Health insurance for aged and disabled, Medicare[1,2]	21,591	15,520	4,431	–	457	–	–	362	–	–	821
Workmen's compensation (medical benefits)[3]	69	45	17	–	4	1	1	–	–	–	–
Medicaid	9,713	3,368	1,032	225	184	573	–	3,603	–	195	533
Public assistance (vendor medical payments)[2]	–	–	–	–	–	–	–	–	–	–	–
General hospital and medical care	1,605	592	21	4	–	3	–	–	–	984	–
Defense Department hospital and medical care (including military dependents)[4]	3,392	2,549	91	8	–	12	–	–	–	791	31
Maternal and child health services	322	50	44	10	38	11	12	–	–	152	5
Other public health activities	1,289	–	–	–	–	–	–	–	1,289	–	–
Veterans' hospital and medical care[4]	4,334	3,589	58	63	–	13	31	238	–	302	40
Medical vocational rehabilitation	227	92	113	–	–	–	22	–	–	–	–

State and local programs	20,051	10,484	2,016	190	241	529	64	2,980	2,440	793	313
Temporary disability insurance (medical benefits)[3]	103	74	25	–	2	1	1	–	–	–	–
Workmen's compensation (medical benefits)[4]	2,540	1,270	1,092	–	76	51	51	–	–	–	–
Medicaid	7,389	2,596	795	173	142	442	–	2,777	–	150	313
Public assistance (vendor medical payments)[2]	517	190	58	13	10	32	–	203	–	11	–
General hospital and medical care	6,691	6,284	–	–	–	–	–	–	–	406	–
Maternal and child health services	315	47	17	4	11	3	7	–	–	225	–
Other public health activities	2,440	–	–	–	–	–	–	–	2,440	–	–
Medical vocational rehabilitation	57	23	28	–	–	–	5	–	–	–	–

[1] Includes premium payments for supplementary medical insurance by or in behalf of enrollees.

[2] Includes duplication in the Medicare and Medicaid amounts where premium payments for Medicare are financed by Medicaid for cash assistance recipients and, in some States, for the medically indigent.

[3] Includes medical benefits paid under public law by private insurance carriers and self-insurers.

[4] Payments for services outside the hospital (excluding "other health services") represent only those made under contract medical care programs.

SOURCES: Gibson, R. M., and Fisher, C. R.: National health expenditures, fiscal year 1977. *Social Security Bulletin* 41(6): 3-20, July 1978; Office of Policy, Planning, and Research, Health Care Financing Administration: Selected data.

Table 155. Medicare hospital and medical insurance average monthly reimbursement per enrollee, according to type of insurance, geographic region, division, and State: United States, 1971 and 1976

(Data are based on Health Care Financing Administration payment records)

Geographic region, division, and State	Type of insurance					
	Hospital and/or medical		Hospital		Supplementary medical	
	1971	1976	1971	1976	1971	1976
	Average monthly amount per enrollee					
United States	$29.71	$58.10	$21.84	$42.79	$ 8.35	$16.38
Northeast	34.10	67.10	24.99	49.70	9.57	18.42
New England	34.62	68.49	26.52	52.39	8.52	17.07
Maine	24.96	53.72	19.27	40.75	6.01	13.72
New Hampshire	25.57	51 20	19.60	38.28	6.34	13.65
Vermont	31.84	56.29	24 98	42.97	7.27	21.43
Massachusetts	37.66	76.15	28 85	59.16	9.30	18.13
Rhode Island	36 17	67.92	26.75	48.83	9.87	20.03
Connecticut	34.52	65.99	26.64	50.18	8.21	16.63
Middle Atlantic	33.93	66.64	24.49	48.82	9 92	18.86
New York	39.44	74 84	28.75	55.49	11.26	20.64
New Jersey	30.96	64 18	21 36	44.72	9.96	20.30
Pennsylvania	27.11	56.02	19.67	41 38	7.83	15.42
North Central	28.42	56.05	21.94	43.61	6.84	13.19
East North Central	28.72	58.02	22 19	45.48	6.89	13.34
Ohio	27.09	53.06	21 58	27.84	5.90	12.11
Indiana	26.04	48.97	20.01	38.43	6.33	11.05
Illinois	28.73	64.10	21.85	50.81	7.29	14.26
Michigan	32.46	64.85	24.74	50.63	8.08	14.95
Wisconsin	28.84	53.02	22.44	39.93	6.66	13.58
West North Central	27.84	52.01	21.42	39 80	6.76	12.86
Minnesota	32.28	57.72	25.29	43.79	7.33	14.56
Iowa	25.48	46.76	19.84	36.02	5.88	11.19
Missouri	27 66	52 72	21.14	41.08	6.94	12.46
North Dakota	28.19	57.38	22.29	44.48	6.23	13.72
South Dakota	25.05	43.94	20.00	34.24	5.34	10.28
Nebraska	25.21	45.76	18.62	34.29	6.91	12.00
Kansas	27.03	53.63	20.27	39.92	7.10	14.38

South	25.01	49.71	17.97	36.06	7.56	14.84
South Atlantic	25.60	53.07	18.29	38.03	7.83	16.32
Delaware	29.52	55.87	22.62	43.23	7.25	13.38
Maryland	29.83	62.13	22.98	47.37	7.60	16.30
District of Columbia	35.39	74.50	27.17	53.26	10.41	25.93
Virginia	22.02	48.10	17.01	35.84	5.49	13.45
West Virginia	19.84	40.10	15.99	30.61	4.12	8.50
North Carolina	21.85	43.28	16.94	32.17	5.25	11.97
South Carolina	16.84	39.05	11.88	29.19	5.38	10.90
Georgia	22.94	45.68	15.50	32.02	8.01	14.85
Florida	30.38	62.96	19.94	42.70	10.89	22.01
East South Central	21.88	42.91	16.30	32.69	6.02	11.24
Kentucky	21.79	41.19	16.91	30.82	5.26	9.25
Tennessee	21.57	43.79	16.00	33.46	5.97	11.23
Alabama	22.53	52.36	16.19	32.84	6.84	12.53
Mississippi	21.62	41.91	16.08	30.96	6.07	14.82
West South Central	26.27	48.80	18.64	35.08	8.19	14.87
Arkansas	20.10	39.91	14.54	28.19	5.96	12.61
Louisiana	22.42	42.05	16.69	31.48	6.51	11.88
Oklahoma	26.63	47.68	18.84	35.50	8.30	13.27
Texas	28.82	53.37	20.16	37.76	9.17	16.75
West	34.00	64.70	23.92	43.36	10.62	21.64
Mountain	27.88	53.10	20.15	37.49	8.22	16.65
Montana	26.99	45.67	20.49	33.34	6.81	12.75
Idaho	24.07	47.87	17.89	36.43	6.48	11.99
Wyoming	23.77	43.45	18.15	32.48	5.95	11.53
Colorado	31.22	58.50	22.51	42.68	9.22	17.02
New Mexico	24.16	49.78	17.27	35.19	7.59	16.02
Arizona	30.85	53.48	21.93	37.06	9.49	13.20
Utah	19.86	39.70	13.74	27.04	6.46	13.51
Nevada	35.04	75.39	25.41	53.30	10.33	23.69
Pacific	35.81	68.30	25.04	46.50	11.32	23.17
Washington	25.18	47.60	17.47	33.41	8.06	14.93
Oregon	25.97	52.05	19.61	38.19	6.73	14.61
California	39.25	74.46	27.30	50.23	12.56	25.78
Alaska	25.26	60.78	17.50	42.01	9.79	22.87
Hawaii	26.62	52.01	18.68	34.81	8.42	18.79

SOURCES: Waldhauser, C.B.: Health insurance for the aged, monthly reimbursement per person by State, 1972. *Health Insurance Statistics.* H1–72. DHEW Pub. No. (SSA) 76–11702. Health Care Financing Administration. Washington. U.S. Government Printing Office, Oct. 15, 1975; Health Care Financing Administration: *Medicare 1976,* Section 1.1. DHEW Pub. No. (HCFA)018. Office of Policy, Planning, and Research. Washington. U.S. Government Printing Office, 1978.

Table 156. Medicaid expenditures[1] and percent distribution, according to type of service: United States, fiscal years 1967–76

(Data are compiled from State and Federal Government sources)

Type of service	Year									
	1967	1968	1969	1970	1971	1972[2]	1973	1974	1975	1976
	Amount in millions									
Total	$2,271	$3,451	$4,368	$5,112	$6,476	$7,713	$8,810	$10,149	$12,318	$14,245
Inpatient hospital care	913	1,361	1,586	1,887	2,288	2,944	3,113	3,399	3,915	4,518
Nursing home care	766	1,064	1,291	1,321	1,674	1,778	1,849	2,027	2,471	2,599
Intermediate care[3]	---	---	95	304	537	743	1,162	1,601	2,179	2,781
Physicians	225	380	516	578	717	804	955	1,086	1,236	1,387
Dental care	72	190	209	169	181	186	211	265	341	387
Prescribed drugs	179	235	301	395	473	549	612	707	816	960
Other services[4]	115	221	369	457	605	710	907	1,063	1,360	1,615
	Percent distribution									
Total	100 0	100 0	100.0	100.0	100.0	100 0	100 0	100.0	100.0	100.0
Inpatient hospital care	40 2	39.4	36.3	36.9	35 3	38.2	35.3	33 5	31 8	31 7
Nursing home care	33.7	30.8	29 6	25 8	25.8	23 1	21 0	20.0	20.1	18.2
Intermediate care[3]	---	---	2 2	5 9	8 3	9.6	13 2	15.8	17 7	19 5
Physicians	9.9	11.0	11 8	11 3	11 1	10.4	10 8	10 7	10 0	9.7
Dental care	3.2	5 5	4.8	3 3	2.8	2 4	2 4	2.6	2.8	2.7
Prescribed drugs	7.9	6.8	6.9	7 7	7.3	7.1	7 0	7.0	6.6	6.7
Other services[4]	5.1	6.4	8 4	8.9	9 3	9.2	10 3	10 5	11.0	11.3

[1] Expenditures from Federal, State, and local funds under Medicaid. Excludes per capita payments for part B of Medicare and administrative costs

[2] Does not include Guam.

[3] Payments to intermediate care facilities are included in the total for fiscal years 1969–72 even though they were administered under the cash assistance program until Jan. 1, 1972, when they were switched to Title XIX.

[4] Other services include laboratory and radiological services, home health, family planning services, and outpatient hospital services.

SOURCE: U.S. House of Representatives, Committee on Interstate and Foreign Commerce: *Data on the Medicaid Program, Eligibility, Services, Expenditures. Fiscal years 1966–77.* Washington. U.S. Government Printing Office, Mar. 1977. p. 32.

Table 157. Veterans' medical care expenditures[1] and percent distribution, according to type of expenditure: United States, fiscal years 1965–77

(Data are compiled from Veterans Administration sources)

Type of expenditure	Year												
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
	Amount in millions												
Total	$1,150.1	$1,204.1	$1,286.9	$1,373.6	$1,479.2	$1,688.6	$1,915.5	$2,273.3	$2,548.9	$2,837.7	$3,328.2	$3,838.8	$4,376.3
Inpatient hospital	941.8	971.6	1,030.1	1,087.3	1,079.2	1,203.2	1,335.1	1,571.2	1,743.6	1,935.0	2,210.0	2,516.8	2,837.8
Outpatient care	138.3	148.7	159.8	184.0	189.3	236.5	300.2	375.3	437.1	482.1	593.8	709.9	824.8
VA nursing homes and domiciliaries	33.0	38.7	45.8	49.8	64.7	73.4	89.5	110.0	121.1	133.2	158.3	184.2	212.0
Community nursing homes	0.1	6.1	10.6	11.8	16.1	20.0	19.7	24.1	28.8	32.5	47.3	56.7	72.3
All others[2]	37.0	39.0	40.6	40.8	128.3	153.1	168.8	191.4	218.4	254.9	318.9	371.2	429.4
	Percent distribution												
Total	100	100	100	100	100	100	100	100	100	100	100	100	100
Inpatient hospital	82	81	80	79	73	71	70	69	68	68	66	66	65
Outpatient care	12	12	12	13	13	14	16	17	17	17	18	18	19
VA nursing homes and domiciliaries	3	3	4	4	4	4	5	5	5	5	5	5	5
Community nursing homes	–	1	1	1	1	1	1	1	1	1	1	1	2
All others[2]	3	3	3	3	9	9	9	8	9	9	10	10	10

[1] Medical care appropriations exclude construction, medical administration, and miscellaneous operating expenses.

[2] Includes miscellaneous benefits and services, contract hospitals, education and training for 1969–77, subsidies to State veterans' hospitals, nursing homes, and domiciliaries, and the Civilian Health and Medical Program of the Veterans Administration.

SOURCE: Veterans Administration: Unpublished data from the Budget Office.

C. Age Differences in Expenditures for Health Care

The age distribution of the population has a direct bearing on the amount and distribution of the Nation's health care expenditures. Per capita expenditures for people 65 years of age and over, nearly all of whom are covered by Medicare, are higher than per capita expenditures for those under 65 years of age. The difference between the two age groups generally reflects the more serious nature of illness and greater prevalence of chronic conditions among older people. They are hospitalized more frequently than younger people and they stay longer when they are admitted.

In fiscal year 1976, $120.4 billion were spent for personal health care services (i.e., the health services and supplies received directly by individuals). Personal health care estimates are derived by subtracting from total national health expenditures amounts devoted to research and medical facilities construction, administrative costs of government health programs, private fundraising activities for health, and retained earnings of private health insurers. Of the $120.4 billion spent, 15 percent or $17.9 billion was spent to care for people under 19 years of age, 56 percent or $67.7 billion for people 19–64 years of age, and 29 percent or $34.9 billion for people 65 years of age and over.

The average per capita health care bill during fiscal year 1976 was $1,521 in the oldest age group, $547 in the intermediate group, and $249 in the youngest group. The amount spent per capita for the elderly was 6 times that for the youngest population. Per capita nursing home expenditures for the elderly were 18 times greater than for people 19–64 years of age. Expenses for hospital care, drugs, physicians services, and eyeglasses ranged from 1.9 to 2.6 times greater for the elderly than for persons 19–64 years of age. The health expenses of older people were paid by public sources to a greater extent than those of younger people. During 1976, third-party payments, both private and public, accounted for about 68 percent of all personal health care expenditures. Public payments accounted for about 40 percent of the personal expenditures for all ages. However, the public contribution varied from 68 percent for the elderly to 26 percent for people under 19 years of age.

Personal health care expenditures by age group varied according to the type of expenditure (provider) and source of funds (public or private). In 1976, nearly half of the total spending for personal health care in the two older age groups (19–64 years of age and 65 years of age and over) was for hospital care. Public programs covered a greater proportion of hospital expenses than other expenses for all age groups, paralleling the coverage patterns of private health insurance.

For the oldest age group, public sources (i.e., Medicare, Medicaid, and the Veterans Administration) paid 91 percent of the total bill for hospital services. Public sources, chiefly Medicaid, paid 40 percent of the total hospital services bill for the intermediate age group. Public expenditures for physician services utilized by the elderly and intermediate age groups amounted to about 60 and 16 percent, respectively. For the elderly, Medicare paid more than two-thirds of hospital expenditures and about one-half of the expenses for services of physicians and also for "other professionals" who mainly provide home health care services. Medicare does not cover expenses associated with dental services, outpatient drugs, eyeglasses and appliances, or "other health services." Some portion of the bill for these services may be picked up by Medicaid or other State and local programs.

Public and private third parties have been paying an increasing share of personal health care expenses for all ages, and these payments accounted for two-thirds of personal health care spending in 1976. Medicare covered the largest portion of the health care bill for the elderly. However, about one-third of the health care bill was paid directly by the elderly for noncovered services, for required deductibles and coinsurance for covered services, and for premiums for Medicare supplemental medical insurance (Part B) and private health insurance to cover gaps in Medicare coverage. For the population under

65 years of age, private health insurance coverage expanded steadily, accompanied by an increase in the share of expenses covered by public programs.

Table 158. Personal health care expenditures for persons 65 years of age and over and percent distribution, according to source of funds and type of expenditure: United States, fiscal year 1976

(Data are compiled by the Health Care Financing Administration)

Type of expenditure	Source of funds				
	All sources	Private	Public		
			Total	Medicare	Other
	Amount in millions				
Total	$34,853	$11,248	$23,605	$14,953	$8,652
Hospital care	15,775	1,425	14,350	11,179	3,171
Physician services	5,863	2,387	3,476	3,218	258
Dentist services	722	679	43	–	43
Other professional services	534	193	341	265	76
Drugs and drug sundries	2,777	2,385	392	–	392
Eyeglasses and appliances	432	424	8	–	8
Nursing home care	8,032	3,731	4,301	291	4,010
Other health services	717	24	693	–	693
	Percent distribution				
Total	100.0	32.3	67.7	42.9	24.8
Hospital care	100.0	9.0	91.0	70.9	20.1
Physician services	100.0	40.7	59.3	54.9	4.4
Dentist services	100.0	94.1	5.9	–	5.9
Other professional services	100.0	36.1	63.9	49.6	14.3
Drugs and drug sundries	100.0	85.9	14.1	–	14.1
Eyeglasses and appliances	100.0	98.1	1.9	–	1.9
Nursing home care	100.0	46.4	53.6	3.6	50.0
Other health services	100.0	3.4	96.6	–	96.6

SOURCE: Gibson, R. M., Mueller, M. S., and Fisher, C. R.: Age differences in health care spending, fiscal year 1976. *Social Security Bulletin* 40(8): 3–14, Aug. 1977.

Table 159. Personal health care aggregate and per capita expenditures, according to age, source of funds, and type of expenditure: United States, fiscal year 1976

(Data are compiled by the Health Care Financing Administration)

Type of expenditure	Age											
	All ages			Under 19 years			19–64 years			65 years and over		
	All sources	Private	Public	All sources	Private	Public	All sources	Private	Public	All sources	Private	Public
	Aggregate amount in millions											
Total	$120,431	$72,013	$48,417	$17,880	$13,190	$4,690	$67,698	$47,576	$20,122	$34,853	$11,248	$23,605
Hospital care	55,400	25,004	30,396	6,461	3,750	2,711	33,164	19,828	13,336	15,775	1,425	14,350
Physician services	26,350	19,718	6,632	5,539	4,822	717	14,948	12,509	2,439	5,863	2,387	3,476
Dentist services	8,600	8,131	469	2,021	1,813	208	5,857	5,638	218	722	679	43
Other professional services	2,400	1,607	793	504	354	150	1,362	1,060	302	534	193	341
Drugs and drug sundries	11,168	10,144	1,023	2,129	1,986	143	6,262	5,774	488	2,777	2,385	392
Eyeglasses and appliances	1,980	1,866	114	329	310	19	1,219	1,133	86	432	424	8
Nursing home care	10,600	4,744	5,856	159	84	75	2,409	929	1,480	8,032	3,731	4,301
Other health services	3,933	800	3,133	738	71	667	2,478	705	1,773	717	24	693
	Per capita amount											
Total	$551 50	$329.78	$221 72	$249.16	$183.80	$65.36	$547 29	$384.62	$162.67	$1,521.36	$490.98	$1,030.38
Hospital care	253.70	114.50	139.20	90.03	52.25	37 78	268.11	160.30	107.81	688.59	62.21	626.38
Physician services	120 67	90 30	30.37	77 18	67 19	9 99	120 85	101.13	19.72	255.92	104.19	151 73
Dentist services	39 38	37.23	2.15	28 16	25 26	2.90	47.35	45.58	1.76	31.53	29.66	1.88
Other professional services	10.99	7.36	3 63	7.03	4.93	2.10	11.01	8.57	2.44	23.31	8.42	14.89
Drugs and drug sundries	51.14	46 45	4 69	29.66	27 67	1.99	50.62	46.68	3.95	121.22	104.09	17.13
Eyeglasses and appliances	9 07	8 55	0 52	4.59	4 32	0.27	9.85	9.16	0.69	18.86	18.49	0.36
Nursing home care	48.54	21 72	26 82	2 22	1 17	1.05	19.47	7.51	11.96	350.61	162.86	187.75
Other health services	18.01	3.66	14.35	10.28	0 99	9.29	20.03	5.70	14.34	31 31	1.05	30.25

NOTE: Data are preliminary estimates

SOURCE: Gibson, R. M., Mueller, M. S., and Fisher, C. R.· Age differences in health care spending, fiscal year 1976. *Social Security Bulletin* 40(8): 3–14, Aug. 1977.

Table 160. Estimated personal health care aggregate and per capita expenditures under public programs, according to age, source of public funds, and program: United States, fiscal year 1976

(Data are compiled by the Health Care Financing Administration)

Program	Age											
	All ages			Under 19 years			19-64 years			65 years and over		
	All public sources	Federal	State and local	All public sources	Federal	State and local	All public sources	Federal	State and local	All public sources	Federal	State and local
	Aggregate amount in millions											
Total	$48,417	$33,683	$14,735	$4,690	$2,863	$1,828	$20,122	$11,763	$8,359	$23,605	$19,057	$4,548
Health insurance for the aged and disabled—Medicare	16,942	16,942	...	35	35	...	1,955	1,955	...	14,953	14,953	...
Temporary disability insurance	74	...	74	...	...	...	74	...	74	...	...	...
Workmen's compensation (medical benefits)	2,125	66	2,059	...	...	...	2,061	64	1,997	64	2	62
Public assistance—Medicaid	14,593	7,959	6,634	2,511	1,369	1,141	6,493	3,541	2,952	5,589	3,048	2,540
General hospital and medical care	6,902	1,265	5,636	795	361	434	4,089	831	3,258	2,018	73	1,945
Defense Department hospital and medical care (including military dependents)	3,207	3,207	...	806	806	...	2,310	2,310	...	91	91	...
Maternal and child health services	588	301	287	498	255	243	90	46	44	...	...	...
Veterans' hospital and medical care	3,759	3,759	...	...	...	...	2,873	2,873	...	886	886	...
Medical vocational rehabilitation	229	183	46	46	37	9	179	143	36	5	4	1
	Per capita amount											
Total	$221.68	$154.22	$ 67.47	$65.32	$39.87	$25.45	$162.66	$ 95.09	$67.57	$1,030.79	$832.18	$198.61
Health insurance for the aged and disabled—Medicare	77.57	77.57	...	0.49	0.49	...	15.80	15.80	...	652.96	652.96	...
Temporary disability insurance	0.34	...	0.34	...	...	...	0.60	...	0.60	...	...	...
Workmen's compensation (medical benefits)	9.73	0.30	9.43	...	...	...	16.66	0.52	16.14	2.79	0.09	2.70
Public assistance—Medicaid	66.82	36.44	30.38	34.97	19.07	15.90	52.49	28.62	23.86	244.06	133.10	110.96
General hospital and medical care	31.60	5.79	25.81	11.07	5.03	6.04	33.06	6.72	26.34	88.12	3.19	84.93
Defense Department hospital and medical care (including military dependents)	14.68	14.68	...	11.23	11.23	...	18.67	18.67	...	3.97	3.97	...
Maternal and child health services	2.69	1.38	1.31	6.94	3.55	3.39	0.73	0.37	0.36	...	...	...
Veterans' hospital and medical care	17.21	17.21	...	...	...	...	23.23	23.23	...	38.69	38.69	...
Medical vocational rehabilitation	1.05	0.84	0.21	0.64	0.52	0.11	1.45	1.16	0.29	0.22	0.17	0.05

NOTE: Data are preliminary estimates.

SOURCE: Mueller, M. S., Gibson, R. M., and Fisher, C. R.: Age differences in health care spending, fiscal year 1976. *Social Security Bulletin* 40(8):3–14, Aug. 1977.

Table 161. Personal health care per capita expenditures, according to source of payment and age: United States, fiscal years 1966–76

(Data are compiled by the Health Care Financing Administration)

Age and fiscal year	All personal health care expenditures	Source of payment				
		Direct payment	Third-party payment			
			Total	Private health insurance	Philanthropy and industry	Government
	Per capita amount					
All ages						
1966	$ 181.96	$ 93.79	$ 88.17	$ 44.90	$3.62	$ 39.65
1967	205.45	93.35	112.10	46.43	3.74	61.92
1968	228.75	93.91	134.84	51.35	3.84	79.66
1969	256.59	102.06	154.53	59.44	4.01	91.09
1970	289.76	117.00	172.76	69.44	4.29	99.03
1971	320.84	125.55	195.29	79.83	4.60	110.86
1972	353.00	132.73	220.27	88.00	4.89	127.37
1973	386.84	142.32	244.53	98.27	5.28	140.98
1974[1]	425.15	153.59	271.56	107.32	5.68	158.56
1975[1]	488.23	164.15	324.08	124.17	6.15	193.76
1976[2]	551.50	179.05	372.46	143.61	7.13	221.72
Under 65 years						
1966	154.96	79.13	75.82	42.25	3.48	30.09
1967	171.55	82.59	88.96	47.98	3.71	37.27
1968	185.39	85.22	100.17	53.11	3.80	43.26
1969	206.36	91.14	115.21	61.54	4.01	49.66
1970	232.50	100.71	131.79	71.98	4.31	55.50
1971	255.09	104.77	150.32	83.11	4.62	62.59
1972	278.23	106.96	171.27	91.81	4.04	74.52
1973	309.45	118.38	191.07	102.67	5.34	83.07
1974[1]	347.87	135.84	212.03	112.33	5.76	93.94
1975[1]	390.79	142.70	248.10	130.21	6.25	111.63
1976[2]	437.83	152.74	285.09	150.89	7.26	126.94
65 years and over						
1966	445.25	236.72	208.52	70.71	4.92	132.89
1967	535.03	198.01	337.03	31.38	4.05	301.59
1968	646.65	177.90	468.75	34.42	3.87	430.45
1969	735.19	206.02	529.17	39.42	4.00	485.75
1970	828.31	270.20	558.11	45.54	4.06	508.50
1971	925.98	316.78	609.20	49.67	4.38	555.15
1972	1,033.51	367.40	666.11	53.33	4.49	608.30
1973	1,081.35	357.16	724.19	58.81	4.70	660.69
1974[1]	1,109.54	310.75	798.78	62.94	5.00	730.85
1975[1]	1,335.72	350.77	984.94	71.65	5.20	908.10
1976[2]	1,521.36	403.53	1,117.83	81.45	6.00	1,030.38

[1] Revised estimates.
[2] Preliminary estimates.

SOURCE: Gibson, R. M., Mueller, M. S., and Fisher, C. R.: Age differences in health care spending, fiscal year 1976. *Social Security Bulletin* 40(8): 3-14, Aug. 1977.

D. Health Care Coverage

An estimated 187 million people or 89 percent of the civilian noninstitutionalized population were covered by public or private insurance plans or programs in 1976, while about 23 million people or 11 percent were without such protection. Based on data from the 1976 Health Interview Survey, these estimates eliminate multiple counting by assigning each individual to only one coverage category, regardless of the number of types of coverage held by that individual. Private hospital insurance takes precedence over reporting of other forms of coverage. This allocation procedure thus understates the number of persons under various public programs.

The proportion of individuals with private insurance or Medicare in 1976 increased with income as well as age and was higher for the white population. Individuals living in central cities (75 percent) were less likely to have such coverage than those living in metropolitan areas outside central cities (85 percent).

By region, the proportion of the population with coverage was highest in the North Central and lowest in the West. A higher proportion of those persons without health insurance lived in nonmetropolitan areas, either in farm or nonfarm settings, and in the South. As family income increased, the proportion of the population without coverage decreased. Health care coverage was highest among managerial and clerical occupations and lowest among laborers and household workers in 1976. The proportion of workers with health care coverage was highest in public administration, manufacturing, financing, and mining industries and lowest in agriculture.

Private health insurance paid for about one quarter of all health care expenses in fiscal year 1977, according to estimates based on data compiled by the Health Care Financing Administration. Direct payment by individuals accounted for about one-third of all expenditures. The largest share of personal health care expenditures was paid by the government (40 percent). The bulk of private insurance expenditures was for hospital care (61 percent) and physician services (30 percent). Dental services and drugs and drug sundries were paid for primarily by the consumer.

Much of the health insurance purchased by people 65 years of age and over is designed to supplement or extend the benefits received under Medicare. Data collected as part of the 1976 Health Interview Survey indicate that 56 percent of white people but only 24 percent of all other people 65 years of age and over had supplemental health insurance (i.e., Medicare plus private health insurance). The proportion of individuals covered only by Medicare tended to decrease as income increased. However, white people at all income levels had proportionately more supplementary health insurance than all other people.

Data collected as part of the 1976 Health Interview Survey provide further insight into the health insurance coverage of the population by various socioeconomic classifications. These data show that about 77 percent of the civilian noninstitutionalized population under 65 years of age had private hospital insurance. The proportion of persons having such coverage increased with income, rising from 35 percent for families with incomes under $3,000 to more than 92 percent for families with incomes of $15,000 or more. There was a relatively high percent of coverage of persons 17–24 years of age in the lowest income group because many young adults with low earnings were still eligible for coverage under their parents' policies, had policies purchased by their parents, or were covered as students. Across all income and age categories, proportionally more white people had hospital insurance coverage than all other people.

Health insurance coverage varies not only by socioeconomic characteristics but also by method of reimbursement. Estimates from the 1975 Health Interview Survey break down health insurance coverage status by prepaid group and fee-for-service plans. Only 6.5 million people or 3.1 percent of the civilian noninstitutionalized population were covered by prepaid group practice plans compared with 151.6 million or 72.5 percent covered by fee-for-service type plans only. However, a comparison of fee-for-service with prepaid group plans shows that patterns

of membership for both types of coverage were similar by age and sex. In central cities, prepaid group membership was proportionately higher for all other people than for white people. While 50 percent of the prepaid group members resided in the West, only 15 percent of the fee-for-service members resided there. About 5 percent of the prepaid group members resided in the South.

Table 162. Personal health care expenditures and percent distribution, according to source of payment and type of expenditure: United States, fiscal year 1977

(Data are compiled by the Health Care Financing Administration)

Type of expenditure	All personal health care expenditures	Source of payment				
		Direct payment	Third-party payment			
			Total	Private health insurance	Philanthropy and industry	Govern-ment
	Aggregate amount in millions					
Total	$142,586	$43,274	$99,312	$39,299	$2,891	$57,121
Hospital care	65,627	3,866	61,760	24,021	1,540	36,199
Physician services	32,184	12,501	19,683	11,817	42	7,824
Dentist services	10,020	7,966	2,054	1,554	–	500
Drugs and drug sundries	12,516	10,400	2,116	973	–	1,143
Other professional services	3,212	1,398	1,814	777	113	924
Eyeglasses and appliances	2,086	1,917	169	39	–	130
Nursing homes	12,618	5,226	7,393	118	91	7,184
Other health services	4,322	–	4,322	–	1,105	3,217
	Per capita amount					
Total	$646.11	$196.09	$450.02	$178.08	$13.10	$258.84
Hospital care	297.39	17.52	279.86	108.85	6.98	164.03
Physician services	145.84	56.65	89.19	53.55	0.19	35.45
Dentist services	45.41	36 10	9.31	7.04	–	2.27
Drugs and drug sundries	56.71	47.13	9.59	4.41	–	5.18
Other professional services	14.56	6.33	8.22	3.52	0.51	4.19
Eyeglasses and appliances	9.45	8.69	0.77	0.18	–	0.59
Nursing homes	57.18	23.68	33.50	0.53	0.41	32.55
Other health services	19.58	–	19.58	–	5.01	14.58
	Percent distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Hospital care	46.0	8.9	62.2	61.1	53.3	63.4
Physician services	22.6	28.9	19.8	30.1	1.5	13.7
Dentist services	7.0	18.4	2.1	3.9	–	0.9
Drugs and drug sundries	8.8	24.0	2.1	2.5	–	2.0
Other professional services	2.3	3.2	1.8	2.0	3.9	1.6
Eyeglasses and appliances	1.5	4.4	0.2	0.1	–	0.2
Nursing homes	8.8	12.1	7.4	0.3	3.1	12.6
Other health services	3.0	–	4.4	–	38.2	5.6

SOURCE: Gibson, R. M., and Fisher, C. R.: National health expenditures, fiscal year 1977. *Social Security Bulletin* 41(7): 3–20, July 1978.

Table 163. Health care coverage status, according to type of coverage: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Type of coverage	Health care coverage status			
	Number of persons in thousands	Cumulative number of persons in thousands	Percent of population	Cumulative percent of population
Private hospital insurance[1]	159,957	159,957	75.9	75.9
Medicare coverage only[2]	7,756	167,713	3.7	79.6
Medicaid coverage only[3]	12,162	179,875	5.8	85.4
Other programs only[4]	5,084	184,959	2.4	87.8
Private hospital insurance, but kind of coverage unknown	1,624	186,583	0.8	88.6
Unknown if covered	861	187,444	0.4	89.0
No coverage	23,200	210,644	11.0	100.0

[1] Includes all persons with private hospital insurance coverage whether or not they have other coverage (e.g. Medicare) as well.

[2] Includes persons over 65 years of age who have Medicare with no private coverage and persons under 65 years of age who have Medicare with no other public or private coverage.

[3] Includes persons who did not have private insurance or Medicare, and reported either (a) receipt of Medicaid services in the previous year, or (b) eligibility for Medicaid as a reason for not having other coverage, or (c) receipt of benefit payments under Aid to Families with Dependent Children or Supplemental Security Income in the past year.

[4] Includes military (Civilian Health and Medical Program of the Uniformed Services), Veterans Administration, private surgical coverage only, and professional courtesy as reasons for holding no other type of public or private coverage.

NOTE: In order to avoid multiple counting of individuals, these estimates were derived by assigning each individual to one coverage category only. Persons with both private insurance and Medicare, for example, were placed in the private insurance category. As a result, Medicare and Medicaid estimates do not correspond to counts available from those programs.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Unpublished data from the Health Interview Survey.

Table 164. Health care coverage status, according to type of coverage and selected characteristics: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Selected characteristic	Type of coverage[1]							
	Private insurance or Medicare		Medicaid		Other programs		No insurance	
	Number of persons in thousands	Percent of population	Number of persons in thousands	Percent of population	Number of persons in thousands	Percent of population	Number of persons in thousands	Percent of population
Total[2]	167,713	79.6	12,162	5 8	5,084	2.4	23,200	11.0
Age								
Under 6 years	13,237	70.0	2,373	12.5	631	3.3	2,469	13.0
6–18 years	37,942	75.3	4,550	9.0	1,474	2.9	5,825	11.6
19–54 years	79,283	77.5	4,177	4.2	2,365	2.4	12,550	12.6
55–64 years	16,292	82.1	815	4.1	527	2.7	1,919	9.7
65 years and over	20,958	96.1	247	1.1	87	0.4	437	2.0
Sex								
Male	81,367	80.1	4,923	4.8	2,381	2.3	11,748	11.6
Female	86,346	79.2	7,239	6.6	2,704	2.5	11,452	10.5
Color								
White	150,855	82 5	6,883	3.8	4,369	2.4	18,675	10.2
All other	16,858	60.7	5,279	19.0	716	2.6	4,525	16.3
Family income								
Less than $3,000	6,409	51.0	3,068	24.4	176	1.4	2,740	21.8
$3,000–$4,999	9,097	55.4	3,438	20.9	194	1.2	3,500	21.3
$5,000–6,999	11,534	62.8	2,271	12.4	470	2.6	3,857	21.0
$7,000–9,999	18,327	75.8	1,097	4.5	843	3.5	3,658	15.1
$10,000–14,999	38,619	86.8	715	1.6	1,283	2.9	3,437	7.7
$15,000 or more	69,960	92.3	[3]426	0.6	1,663	2.2	3,104	4.1
Place of residence								
SMSA, central city	46,109	75.1	6,008	9.8	1,409	2.3	7,168	11.7
SMSA, outside central	70,219	84.8	2,983	3.6	1,892	2.3	6,669	8.1
Outside SMSA, nonfarm	46,354	77.4	3,069	5.1	1,676	2.8	8,106	13.5
Outside SMSA, farm	5,031	76.9	102	1.6	107	1.6	1,257	19.2
Geographic region								
Northeast	40,394	83.1	3,449	7.1	468	1.0	3,683	7.6
North Central	47,973	85.3	2,752	4.9	464	0.8	4,458	7.9
South	50,717	75.1	3,471	5.1	2,682	4.0	9,833	14.6
West	28,629	74.9	2,490	6.5	1,470	3.8	5,225	13.7

[1] Excludes 1,624 thousand persons who said they had hospital insurance but did not know the kind of coverage they had and 861 thousand persons who did not know if they were covered by health insurance.

[2] Includes unknown family income.

[3] Persons with high incomes can qualify for Medicaid in at least 2 ways: (1) previous year's income is employed, yet family dissolution or catastrophic illness could have occurred in the survey year causing Medicaid use or eligibility; (2) in certain States, large families with incomes in excess of $15,000 could qualify for Medicaid coverage.

NOTE: The information in the footnotes and general note for table 163 also apply to this table.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Unpublished data from the Health Interview Survey.

Table 165. Health care coverage status, according to type of coverage, occupation, and industry: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Occupation and industry	Type of coverage[1]							
	Private insurance or Medicare		Medicaid		Other programs		No insurance	
	Number of persons in thousands	Percent of population	Number of persons in thousands	Percent of population	Number of persons in thousands	Percent of population	Number of persons in thousands	Percent of population
Total	167,713	79.6	12,162	5.8	5,084	2.4	23,200	11.0
Occupation								
Professional, technical, and kindred workers	13,207	92.6	75	0.5	204	1.4	663	4.6
Managers and administrators, except farm	9,184	89.5	*32	*0.3	199	1.9	741	7.2
Sales workers	4,947	84.6	84	1.4	156	2.7	591	10.1
Clerical and kindred workers	14,249	87.9	274	1.7	294	1.8	1,150	7.1
Craftsmen and kindred workers	10,260	84.0	136	1.1	169	1.4	1,504	12.3
Operatives, except transport	9,328	83.6	278	2.5	106	0.9	1,289	11.6
Transport equipment operatives	2,827	80.8	61	1.7	55	1.6	496	14.2
Laborers, except farm	3,010	72.2	103	2.5	75	1.8	906	21.7
Farmers and farm managers	1,164	78.4	*2	*0.1	*16	*1.1	289	19.5
Farm laborers and farm foremen	591	53.9	37	3.4	*15	*1.3	449	41.0
Service workers, except private household	8,676	77.3	394	3.5	310	2.8	1,672	14.9
Private household workers	683	62.4	103	9.4	*23	*2.1	273	25.0
Unknown	1,078	66.4	126	7.8	41	2.6	334	20.5
Not in labor force	88,509	76.0	10,457	9.0	3,422	2.9	12,842	11.0
Industry								
Agriculture	2,125	67.8	51	1.6	38	1.2	895	28.6
Forestry and fisheries	69	68.3	*4	*4.0	–	–	*19	*18.3
Mining	697	91.0	*6	*0.8	*6	*0.7	53	6.9
Construction	4,456	76.3	77	1.3	103	1.8	1,119	19.2
Manufacturing	19,530	89.0	298	1.4	161	0.7	1,685	7.7
Transportation and public utilities	5,155	88.5	66	1.1	59	1.0	461	7.9
Wholesale and retail trade	14,878	80.1	385	2.1	441	2.4	2,565	13.8
Finance, insurance, and real estate	4,578	90.3	*30	*0.6	91	1.8	316	6.2
Service and miscellaneous	21,597	84.2	585	2.3	502	2.0	2,671	10.4
Public administration	5,095	89.4	73	1.3	225	3.9	253	4.4
Unknown	1,023	66.0	130	8.4	37	2.4	320	20.6
Not in labor force	88,509	76.0	10,457	9.0	3,422	2.9	12,842	11.0

[1] Excludes 1,624 thousand persons who said they had hospital insurance but did not know the kind of coverage they had and 861 thousand persons who did not know if they were covered by hospital insurance.

NOTE: The information in the footnotes and general note for table 163 also apply to this table.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Unpublished data from the Health Interview Survey.

Table 166. Persons under 65 years of age with private hospital insurance coverage, according to family income and age: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Family income and age	Population in thousands	Insured persons	
		Number in thousands	Percent of population
All incomes[1]			
All ages under 65 years	188,844	146,340	77.5
Under 17 years	65,185	48,168	73.9
17-24 years	26,638	18,743	70.4
25-44 years	53,770	43,845	81.5
45-64 years	43,253	35,585	82.3
Less than $3,000			
All ages under 65 years	9,371	3,298	35.2
Under 17 years	2,686	561	20.9
17-24 years	2,799	1,509	53.9
25-44 years	1,726	442	25.6
45-64 years	2,160	786	36.4
$3,000-$4,999			
All ages under 65 years	11,840	4,547	38.4
Under 17 years	4,302	1,167	27.1
17-24 years	2,258	1,052	46.6
25-44 years	564	912	35.5
45-64 years	2,716	1,417	52.2
$5,000-$6,999			
All ages under 65 years	14,959	8,135	54.4
Under 17 years	5,428	2,404	44.3
17-24 years	2,717	1,523	56.1
25-44 years	3,520	1,941	55.1
45-64 years	3,294	2,267	68.8
$7,000-$9,999			
All ages under 65 years	21,448	15,627	72 9
Under 17 years	7,523	5,120	68.1
17-24 years	3,515	2,440	69.4
25-44 years	5,862	4,353	74.3
45-64 years	4,547	3,714	81.7
$10,000-$14,999			
All ages under 65 years	42,163	36,358	86.2
Under 17 years	14,990	12,633	84.3
17-24 years	5,396	4,308	79.8
25-44 years	13,271	11,817	89.0
45-64 years	8,506	7,600	89.4
$15,000 or more			
All ages under 65 years	73,156	67,412	92.1
Under 17 years	24,346	22,378	91.9
17-24 years	8,038	6,811	84.7
25-44 years	23,330	21,881	93.8
45-64 years	17,443	16,342	93.7

[1] Includes unknown family income.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics. Unpublished data from the Health Interview Survey.

Table 167. Persons under 65 years of age with private hospital insurance coverage, according to color, family income, and age: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Age	Color					
	White			All other		
	Less than $5,000	$5,000-$9,999	$10,000 or more	Less than $5,000	$5,000-$9,999	$10,000 or more
	Population in thousands					
All ages under 65 years	14,973	29,544	105,613	6,239	6,863	9,706
Under 17 years	4,260	9,859	35,663	2,727	3,092	3,672
17–24 years	3,978	5,238	12,186	1,078	994	1,248
25–44 years	3,053	7,623	33,469	1,238	1,758	3,132
45–64 years	3,681	6,823	24,295	1,195	1,019	1,653
	Number insured in thousands					
All ages under 65 years	6,282	19,843	95,705	1,563	3,919	8,065
Under 17 years	1,231	5,981	32,094	497	1,544	2,916
17–24 years	2,267	3,443	10,202	294	520	917
25–44 years	990	5,141	30,888	364	1,153	2,810
45–64 years	1,794	5,278	22,522	408	703	1,421
	Percent insured					
All ages under 65 years	42.0	67.2	90.6	25.0	57.1	83.1
Under 17 years	28.9	60.7	90.0	18.2	49.9	79.4
17-24 years	57.0	65.7	83.7	27.2	52.3	73.5
25-44 years	32.4	67.4	92.3	29.4	65.6	89.7
45-64 years	48.7	77.4	92.7	34.2	69.0	86.0

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Unpublished data from the Health Interview Survey.

Table 168. Persons 65 years of age and over with supplemental health insurance coverage, according to color, type of coverage, and family income: United States, 1976

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Family income	Color									
	White					All other				
	Population 65 years and over	Private hospital insurance only[1]	Medicare only[2]	Private hospital insurance and Medicare[3]	Other[4]	Population 65 years and over	Private hospital insurance only[1]	Medicare only[2]	Private hospital insurance and Medicare[3]	Other[4]
	Number of persons in thousands									
All incomes[5]	19,768	1,833	6,117	11,165	653	2,030	127	1,219	491	193
Less than $3,000	2,658	133	1,372	1,032	121	547	*9	404	78	56
$3,000–$4,999	4,005	236	1,485	2,201	83	566	*29	357	137	43
$5,000–$6,999	3,183	255	892	1,950	86	226	*13	108	95	*10
$7,000–$9,999	2,581	305	537	1,691	48	145	*13	72	37	*23
$10,000–$14,999	2,183	283	458	1,382	60	126	*11	54	47	*14
$15,000 or more	2,509	411	478	1,505	115	131	*22	54	49	*6
	Percent distribution									
All incomes[5]	100.0	9.3	30 9	56.5	3 3	100 0	6.3	60.0	24 2	9.5
Less than $3,000	100 0	5.0	51.6	38 8	4 5	100.0	*1.6	73.9	14.3	10.2
$3,000–$4,999	100.0	5.9	37.1	55 0	2.1	100.0	*5.1	63.1	24.2	7.6
$5,000–$6,999	100.0	8.0	28.0	61.3	2.7	100.0	*5.7	47.8	42.0	*4.4
$7,000–$9,999	100.0	11.8	20 8	65.5	1.9	100.0	*9.0	49.6	25.5	*15.9
$10,000–$14,999	100.0	13 0	21.0	63.3	2.7	100.0	*8.7	42.9	37.3	*11 1
$15,000 or more	100.0	16.4	19 0	60.0	4.6	100.0	*16 8	41.2	37.4	*4.6

[1] Includes persons who have private health insurance and who do not explicitly say they have Medicare.
[2] Includes persons who have Medicare and who do not explicitly say they have private health insurance
[3] Includes persons who have private hospital insurance and Medicare.
[4] Includes persons who do not fall into previous categories; persons who are not sure of their coverage, persons who do not have any coverage, and persons who have Medicaid coverage only.
[5] Includes unknown income

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Unpublished data from the Health Interview Survey.

Table 169. Private health insurance coverage status, according to type of plan and selected characteristics: United States, 1975

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Selected characteristic	All persons	Covered—type of plan			Not covered	Unknown
		All types of coverage	Prepaid group practice	Fee for service		
	Number of persons in thousands					
Total	209,065	158,085	6,532	151,552	47,433	3,547
Age						
Under 17 years	61,945	45,090	2,010	43,079	15,647	1,208
17–44 years	82,738	64,224	2,664	61,561	17,155	1,358
45–64 years	43,094	35,481	1,451	34,031	6,989	623
65 years and over	21,287	13,290	408	12,882	7,641	357
64 years and under	187,777	144,795	6,124	138,671	39,792	3,190
Sex						
Male	100,865	77,231	3,234	73,997	21,925	1,709
Female	108,199	80,853	3,298	77,555	25,508	1,838
Color						
White	181,874	143,028	5,310	137,718	36,058	2,788
All other	27,191	15,057	1,222	13,834	11,374	759
Place of residence						
SMSA, central city	61,562	43,646	2,930	40,717	16,710	1,205
SMSA, outside central city	82,093	67,464	3,018	64,446	13,305	1,324
Outside SMSA, nonfarm	58,700	42,201	543	41,659	15,604	895
Outside SMSA, farm	6,710	4,773	42	4,731	1,814	124
Geographic region						
Northeast	49,086	38,790	2,148	36,642	9,442	854
North Central	55,892	46,148	763	45,385	9,030	714
South	66,854	46,650	359	46,291	18,880	1,324
West	37,233	26,497	3,263	23,234	10,081	655
Family income[1]						
Less than $3,000	14,676	5,351	171	5,180	9,014	311
$3,000–$4,999	17,074	7,530	241	7,289	9,197	348
$5,000–$9,999	45,273	30,561	962	29,600	14,014	698
$10,000–$14,999	47,103	40,470	1,689	38,780	5,960	674
$15,000–$24,999	48,872	44,290	2,211	42,080	4,015	567
$25,000 or more	20,996	19,395	978	18,417	1,382	219

[1] Includes unknown family income.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Unpublished data from the Health Interview Survey.

Table 170. Private health insurance coverage status percent distribution, according to type of plan and selected characteristics: United States, 1975

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Selected characteristic	All persons	Covered—type of plan			Not covered	Unknown
		All types of coverage	Prepaid group practice	Fee for service		
	Percent of persons					
Total[1]	100.0	100.0	100.0	100.0	100.0	100.0
Age						
Under 17 years	29.6	28.5	30.8	28.4	33.0	34.1
17–44 years	39.6	40.6	40.8	40.6	36.2	38.3
45–64 years	20.6	22.4	22.2	22.5	14.7	17.6
65 years and over	10.2	8.4	6.2	8.5	16.1	10.1
64 years and under	89.8	91.6	93.8	91.5	83.9	89.9
Sex						
Male	48.2	48.9	49.5	48.8	46.2	48.2
Female	51.8	51.1	50 5	51.2	53.8	51.8
Color						
White	87.0	90.5	81.3	90.9	76.0	78.6
All other	13.0	9.5	18.7	9.1	24.0	21.4
Place of residence						
SMSA, central city	29.4	27.6	44.9	26.9	35.2	34.0
SMSA, outside central city	39.3	42.7	46.2	42.5	28.1	37.3
Outside SMSA, nonfarm	28.1	26.7	8.3	27.5	32.9	25.2
Outside SMSA, farm	3.2	3 0	0 6	3.1	3.8	3.5
Geographic region						
Northeast	23.5	24.5	32.9	24.2	19.9	24.1
North Central	26.7	29.2	11.7	29.9	19.0	20.1
South	32.0	29.5	5.5	30.5	39.8	37.3
West	17.8	16.8	50.0	15.3	21.3	18.5
Family income						
Less than $3,000	7.0	3.4	2.6	3.4	19.0	8.8
$3,000–$4,999	8.2	4.8	3.7	4.8	19.4	9.8
$5,000–$9,999	21.7	19.3	14.7	19.5	29.5	19.7
$10,000–$14,999	22.5	25.6	25.9	25.6	12.6	19.0
$15,000–$24,999	23.4	28.0	33.8	27.8	8.5	16.0
$25,000 or more	10.0	12.3	15.0	12.2	2.9	6.2

[1] Includes unknown family income.

SOURCE: Division of Health Interview Statistics, National Center for Health Statistics: Unpublished data from the Health Interview Survey.

E. Medical Care Price Changes

The Consumer Price Index (CPI), compiled by the Department of Labor's Bureau of Labor Statistics, is the major source of information regarding price changes in the American economy. While the CPI is often said to measure changes in the cost of living, its correct technical definition is more restrictive. The CPI is designed to measure the change in prices of a given "market basket" of goods and services representative of the purchases of urban wage earners and clerical workers. In other words, the CPI measures changes over time in the prices of the same set of goods and services, excluding (at least in concept) changes in the quality and quantity purchased. The prices of representative health services and drugs are included in the medical care index, and health insurance premiums are estimated by using proxy measures for changes in the price of covered services and in overhead. The data are collected directly from providers located in 85 metropolitan and nonmetropolitan areas across the country.

The CPI has been criticized for not taking changes in the quality of health services and products into account and for not pricing items that are representative of actual medical treatments and practices. Nevertheless, the medical care component of the CPI is still the most widely used indicator of health care inflation.

Historically, medical care price increases have exceeded the increase registered by the total (all items) Consumer Price Index, although the rate of increase has varied over different periods of time. The overall CPI in 1977 was $2^1/_2$ times higher than in 1950, having increased at an average rate of 3.5 percent per year. During the same interval, the price of medical care almost quadrupled, increasing at an annual rate of 5 percent. Charges for hospital rooms increased at an annual rate of 8.9 percent. Physicians' and dentists' fees increased at an annual rate of 5 percent and 4 percent, respectively. Drug prices rose an average 1.6 percent per year.

Although there was some acceleration in the rate of increase for the overall CPI during the year, medical care prices rose at about the same rate in 1977 as in 1976 (9.6 percent). The rate of increase for medical service prices actually slowed slightly, but this deceleration was offset by larger price increases for prescription drugs. In 1977, hospital charges and physicians' fees rose at much lower rates than during each of the previous 2 years; this reflected the apparent end of the catchup period of increases that followed the lifting of price and wage controls imposed under the Economic Stabilization Program (August 1971–April 1974). Medical care prices increased at an annual rate of 7.8 percent during the first quarter of 1978. Physicians' and dentists' fees increased at an annual rate of 6.1 percent and 8.9 percent, respectively. Hospital room rates, however, rose at an annual rate of 12.9 percent to a level 11 percent above March 1977. The prices of drugs and prescriptions increased at an annual rate of 6 percent.

The Bureau of Labor Statistics has recently completed a comprehensive revision of the Consumer Price Index. The revision was designed to update the weights assigned to the various goods and services included in the CPI, the sample of items for which prices are collected, and the sample of retail outlets and providers from which prices are collected, and also to improve the methods of price collection and calculation used for the index. The revised index was introduced in January 1978. The list of items priced for the medical care index has undergone considerable expansion, and includes additional physician specialty, hospital, and dentist services. Also, prices of medical equipment and nursing home services are being included in the CPI for the first time.

Table 171. Consumer Price Index (1967 = 100) for all items and medical care components: United States, selected years 1950–77

(Data are based on reporting by samples of providers and other retail outlets)

Item and medical care component	Year											
	1950	1955	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977
	Consumer Price Index											
CPI, all items	72 1	80.2	88.7	94.5	116.3	121.3	125.3	133.1	147.7	161.2	170 5	181.5
Less medical care	---	---	89.4	94.9	116.1	120.9	124.9	132.9	147.7	160.9	169.7	180.3
CPI, all services	58 7	70 9	83.5	92.2	121.6	128.4	133.3	139 1	152.1	166 6	180.4	194.3
All medical care	53.7	64.8	79.1	89.5	120.6	128.4	132.5	137.7	150.5	168.6	184.7	202.4
Medical care services	49.2	60.4	74.9	87.3	124.2	133.3	138.2	144.3	159.1	179.1	197.1	216.7
Hospital service charges[1]	---	---	---	---	---	---	102 0	105.6	115.1	132.3	148.7	164.1
Semiprivate room	30 3	42.3	57.3	75.9	145.4	163.1	173 9	182.1	201.5	236 1	268.6	299.5
Operating room charges	---	---	---	82.9	142.4	156.2	168.6	179.1	201.3	239.4	274.8	311.3
X-ray diagnostic series, upper G.I.	---	---	---	90 9	110.3	124.9	129.1	131 8	140.6	156.2	174.6	189.4
Professional services:												
Physician fees	55.2	65.4	77.0	88.3	121 4	129.9	133.8	138.2	150.9	169.4	188.5	206.0
General physician, office visits	54.9	65.4	75.9	87.3	122 6	131.4	134.8	139.5	154.3	173.9	193.8	212.1
General physician, house visits	52.9	61.2	75.0	87.6	122.4	131.0	136.7	141.7	151.3	170.5	189.8	205.7
Herniorrhaphy (adult)	---	---	---	91.3	115.0	123 4	128.2	131.3	138.6	152.3	169.3	183.7
Tonsillectomy and adenoidectomy	60.7	69.0	80.3	91.0	117.1	125.2	129.9	132.3	144.2	163.3	179.2	200.2
Obstetrical cases	51.2	68.6	79.4	89.0	121.8	129.0	133.8	128.1	149.0	167.2	192.1	207.8
Pediatric care, office visits	---	---	---	85.8	122.7	132.0	136 2	140.5	153.4	172.5	192.7	213.1
Psychiatrist care, office visits	---	---	---	92.1	119 4	124.8	129.2	133 6	141.0	153.0	163.9	173.0
Dentist fees	63.9	73.0	82.1	92.2	119.4	127 0	132.3	136 4	140.8	161 9	172.2	185.1
Other professional services:												
Examination, prescription, and dispensing eyeglasses	73.5	77.0	85.1	92.8	113.5	120.3	124.9	129.5	138.6	149.6	158.9	168.2
Routine laboratory tests	---	---	---	94.8	111.4	116.1	120.4	122.8	135.4	151.4	160.5	169.4
Drugs and prescriptions	88.5	94.7	104.5	100.2	103.6	105.4	105.6	105.9	109.6	118.8	126.0	134.1
Prescriptions	92.6	101 6	115.3	102.0	101.2	101.3	100.9	100.5	102.9	109.3	115.2	122.1
Over-the-counter items	---	---	---	98.0	106.2	110.2	111.3	112.4	117.6	130.1	138.9	148.5

[1] Jan. 1972=100 (the date the index was introduced).

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor: Consumer Price Index. Various releases.

Table 172. Consumer Price Index average annual percent change for all items and medical care components: United States, selected years 1950–77

(Data are based on reporting by samples of providers and other retail outlets)

Item	Year											
	1950–55	1955–60	1960–65	1965–70	1970–75	1970–71	1971–72	1972–73	1973–74	1974–75	1975–76	1976–77
	Average annual percent change											
CPI, all items	2.2	2.0	1.3	4.2	6.8	4.3	3.3	6.2	11.0	9.1	5.3	6.5
Less medical care	---	---	1.2	4.1	6.7	4.1	3.3	6.4	11.1	8.9	5.5	6.2
CPI, all services	3.9	3.3	2.0	5.7	6.5	5.6	3.8	4.4	9.3	9.5	8.3	7.7
All medical care	3.8	4.1	2.5	6.1	7.0	6.5	3.2	3.9	9.3	12.0	9.5	9.6
Medical care services	4.2	4.4	3.1	7.3	7.6	7.3	3.7	4.4	10.2	12.6	10.1	9.9
Hospital service charges	---	---	---	---	---	---	---	3.5	9.0	14.9	12.4	10.4
Semiprivate room	6.9	6.3	5.8	13.9	10.2	12.2	6.6	4.7	10.7	17.2	13.8	11.5
Operating room charges	---	---	---	11.4	10.9	9.7	7.9	6.2	12.4	18.9	14.8	13.3
X-ray diagnostic series, upper G.I.	---	---	---	5.1	7.2	7.4	3.4	2.1	6.7	11.1	11.8	8.5
Professional services:												
Physician fees	3.5	3.3	2.8	6.0	6.9	7.0	3.0	3.3	9.2	12.3	11.3	9.3
General physician, office visits	3.6	3.0	2.9	7.0	7.2	7.2	2.6	3.5	10.6	12.7	11.4	9.4
General physician, house visits	3.0	4.2	3.2	6.9	6.9	7.0	4.4	3.7	6.8	12.7	11.3	8.4
Herniorrhaphy (adult)	---	---	---	4.7	5.8	7.3	3.8	2.4	5.6	9.9	11.2	8.5
Tonsillectomy and adenoidectomy	2.6	3.1	2.5	5.2	6.9	6.9	3.8	2.2	8.5	13.3	9.7	11.7
Obstetrical cases	6.0	3.0	2.3	6.5	6.5	5.9	3.7	3.2	7.9	12.2	14.9	8.2
Pediatric care, office visits	---	---	---	7.4	7.1	7.0	3.2	3.2	9.2	12.5	11.7	10.6
Psychiatrist, office visits	---	---	---	5.3	6.3	4.5	3.9	3.4	5.5	8.5	7.1	5.6
Dentist fees	2.7	2.4	2.4	5.3	6.3	6.4	4.2	3.0	7.6	10.3	6.4	7.5
Other professional services:												
Examination, prescription, and dispensing eyeglasses	1.0	2.0	1.7	4.1	5.7	6.0	3.8	3.7	7.1	7.9	6.2	5.9
Routine laboratory tests	---	---	---	3.3	6.3	4.2	3.7	2.0	10.3	11.8	6.0	5.5
Drugs and prescriptions	1.4	2.0	0.8	0.7	2.8	1.7	0.2	0.3	3.5	8.4	6.1	6.4
Prescriptions	1.9	2.0	−2.2	−0.1	1.6	0.1	−0.4	−0.4	2.4	6.2	5.4	6.0
Over-the-counter items	---	---	---	1.6	4.1	3.8	1.0	1.0	4.5	10.7	6.8	6.9

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor: Consumer Price Index. Various releases.

F. Hospital Expenses

Both payroll and nonpayroll expenses of hospitals have continued to increase rapidly. Overall, the average amount expended by hospitals per inpatient day of care increased by 14 percent between 1976 and 1977. Such hospital outlays have been increasing more or less steadily for a number of years; the 1977 per patient day average was 4 times as great as the 1966 average and twice as great as the 1971 average.

Two measures—the Hospital Costs Index (HCI) and the Hospital Intensity Index (HII)—can be used to distinguish between the portion of increased expenses of hospitals resulting from increased prices that must be paid for goods and services and the portion resulting from increased quantities of goods and services provided per patient day. The HCI measures the effect of rising wages and prices on hospital expenses. Between 1970 and 1977, the HCI rose at an annual rate of 7.8 percent. The HII measures changes in the quantities of services provided in a day of hospital care. This index increased at an annual rate of 4.1 percent from 1970 to 1977. Hospital budgets are therefore growing larger not only because of wage and price increases but also because of increases in the service intensity and the volume of X-rays, laboratory tests, and drugs administered per patient day.

In 1977, payroll expenses accounted for about 50 percent of the cost of operating a hospital. However, payroll costs as a proportion of hospital expenses per patient day have been decreasing steadily since 1966. From 1955 until about 1960, they increased at a faster rate than nonpayroll expenses. Since that time, nonpayroll expenses for purchased goods and services, new equipment, and overhead have been increasing at a faster rate. Higher payroll costs are the result of an increase in the number of workers employed and their wage rates, an upgrading of the skills of hospital workers as they treat patients with increasingly complex technology, and a shortening of hospital work weeks. The last two factors are chiefly responsible for the long-term increase in the number of personnel per 100 patients.

The growth in hospital expenditures over the last 10 years has also been accompanied by changes in the earnings of hospital workers relative to other workers in the economy. From 1969 to 1977, the annual rate of increase in nonsupervisory hospital employee hourly earnings (7.8 percent) was greater than that of nonsupervisory workers in nonfarm, services, and manufacturing occupations (7.1, 7.7, and 7.4 percent, respectively). Hospital workers' average weekly earnings are below the average earnings of all private nonfarm production workers. However, such broad comparisons of hospital employees' wages relative to those of nonagricultural workers fail to account for interindustry wage differentials and skill levels. Nevertheless, a comparison can be made between the wage levels of various hospital workers in eight cities from 1963 to 1975, based on Labor Department surveys of the hospital industry. General duty nurses and medical technologists are considered professional jobs; nursing aides and cleaners are considered nonprofessional.

For all cities and all occupations except payroll clerks, the growth in earnings from 1963 to 1975 was greater for nonsupervisory hospital workers than for nonsupervisory employees in private nonfarm, services, and manufacturing occupations. For the professional hospital jobs, medical technologists had lower earning increases than nurses in all cities except New York and Boston. In some cities (i.e., Chicago and Dallas), earning increases were rather uniform for all occupations, while in others, the earnings of nurses aides and cleaners increased more rapidly. In all cities, the earnings of payroll clerks increased at the slowest rate.

Hospital cost inflation has been attributed to an increased demand for a larger number of and more expensive services, the result of higher incomes, the spread of health insurance coverage, the growth of the population over 65 years of age, and the availability of improved and more costly procedures for treatment and diagnosis. For most of the period since 1960, the increasing unit costs of hospital inputs (i.e., wage rates and the prices of purchased goods and services) have been responsible for somewhat more than

half of the total increase in cost per patient day. The expenses associated with improvement and expansion of services accounted for the remainder. Therefore, changes in the quantity and quality of services provided by hospitals accounted for a little less than half of the increased expense of providing hospital care from 1960 to 1976.

Table 173. Hospital expenses per patient day, personnel and number per 100 patients, and average annual percent change: United States, selected years 1955–77

(Data are based on reporting by a sample of hospitals)

Year and period	Expenses per patient day			Payroll cost as percent of total	Personnel	
	Total	Payroll	Nonpayroll		Number in thousands	Number per 100 patients
1955	$ 23.12	$14.26	$ 8.86	61.7	826	203
1960	32.23	20.08	12.15	62.3	1,080	226
1963	38.91	24.01	14.90	61.7	1,277	241
1966	48.15	29.41	18.74	61.1	1,532	261
1969	70.03	41.36	28.67	59.6	1,824	280
1970	81.01	47.30	33.71	58.4	1,929	292
1971	92.31	53.80	38.51	58.3	1,999	301
1972	105.21	59.79	45.42	56.8	2,056	310
1973	114.69	63.86	50.83	55.7	2,149	315
1974	128.05	69.83	58.22	54.5	2,289	326
1975	151.42	80.34	71.08	53.1	2,399	339
1976	[1]173.68	[1]89.66	[1]84.02	[1]51.6	2,483	347
1977	198.23	99.67	98.56	50.3	2,581	360
	Average annual percent change					
1955–77	10.3	9.2	11.6	...	5.3	2.6
1955–60	6.9	7.1	6.5	...	5.5	2.2
1960–63	6.5	6.1	7.0	...	5.7	2.2
1963–66	7.4	7.0	7.9	...	6.3	2.7
1966–69	13.3	12.0	15.2	...	6.0	2.4
1970–71	13.9	13.7	14.2	...	3.6	3.1
1971–72	14.0	11.1	17.9	...	2.9	3.0
1972–73	9.0	6.8	11.9	...	4.5	1.6
1973–74	11.6	9.3	14.5	...	6.5	3.5
1974–75	18.3	15.1	22.1	...	4.8	4.0
1975–76	14.7	11.6	18.2	...	3.5	2.4
1976–77	14.1	11.2	17.3	...	3.9	3.7

[1] Revised figures.

SOURCE: American Hospital Association: *Hospital Statistics, 1977 Edition.* Chicago, 1977. (Copyright 1977: used with the permission of the American Hospital Association.); Personal communication, 1978.

Table 174. Indicators of hospital cost and price inflation and average annual percent change: United States, 1965–77

(Data are based on reporting by a sample of hospitals)

Year and period	Indicator				
	Consumer price index: hospital semi-private room charges (1967 = 100)	Adjusted expense per inpatient day[1]	Hospital costs index[2] (1969 = 100)	Hospital intensity index[3] (1969 = 100)	Adjusted expense per admission
1965	75.9	$ 40.56	---	---	$ 310.79
1966	83.5	43.66	---	---	337.54
1967	100.0	49.46	---	---	409.04
1968	113.6	55.80	---	---	471.30
1969	128.8	64.26	100.00	100.00	539.25
1970	145.4	73.73	108.72	109.61	610.10
1971	163.1	83.43	115.59	115.38	675.01
1972	173.9	94.61	119.56	119.04	744.88
1973	182.1	101.78	125.45	121.21	796.65
1974	201.5	113.21	136.98	126.02	878.84
1975	236.1	133.08	153.33	131.84	1,016.79
1976	268.6	[4]152.24	169.09	139.48	[4]1,168.15
1977	299.5	173.25	184.49	145.64	1,316.05
	Average annual percent change				
1965–77	12.1	12.9	---	---	12.8
1965–69	14.1	12.2	---	---	14.8
1970–77	10.9	13.0	7.8	4.1	11.6
1969–71	12.5	13.9	7.5	7.4	11.9
1971–73	5.7	10.5	4.2	2.5	8.6
1973–75	13.9	14.3	10.6	4.3	13.0
1975–76	13.8	14.4	10.3	5.8	14.9
1976–77	11.5	13.8	9.1	4.4	12.7

[1] Statistics are for non-Federal short-term general and other specialty hospitals.

[2] Hospital Costs Index developed by the American Hospital Association measures prices hospitals pay for resources needed to provide services in a typical patient day with quantity held constant.

[3] Hospital Intensity Index developed by the American Hospital Association measures the effect of changes in quantity of hospital services on hospital costs given constant prices.

[4] Revised figures.

SOURCES: American Hospital Association: *Hospital Statistics, 1976 and 1977 Editions.* Chicago, 1976 and 1977. (Copyright 1976 and 1977: used with the permission of the American Hospital Association); American Hospital Association: Unpublished data; Bureau of Labor Statistics, U.S. Department of Labor: Consumer Price Index. Various releases; Hospital Data Center, American Hospital Association: Personal communication, 1978.

Table 175. Average hourly earnings and annual percent change for selected hospital occupations, according to city: United States, 1963 and 1975

(Data are based on a number of government sources)

City and occupation	Average hourly earnings		Annual percent change 1963-75
	1963[1]	1975	
Nonsupervisory employees			
All private, nonfarm	$2.28	$4.54	5.9
Services	[2]1.94	4.06	6.9
Manufacturing	2.46	4.81	5.7
Hospital Occupations:			
Atlanta			
General duty nurse	1.88	4.79	8.1
Medical technologist	2.08	5.02	7.6
Nursing aide	.96	2.78	9.3
Cleaner	.72	2.63	11.4
Payroll clerk	---	---	---
Baltimore			
General duty nurse	2.05	5.75	9.0
Medical technologist	2.23	5.94	8.5
Nursing aide	1.15	3.80	10.5
Cleaner	1.03	3.61	11.0
Payroll clerk	1.80	4.31	7.5
Boston			
General duty nurse	2.15	5.55	8.2
Medical technologist	2.11	5.53	8.4
Nursing aide	1.37	3.47	8.1
Cleaner	1.32	3.40	8.2
Payroll clerk	1.88	4.25	7.0
Chicago			
General duty nurse	2.35	5.73	7.7
Medical technologist	2.40	5.61	7.3
Nursing aide	1.38	3.70	8.6
Cleaner	1.31	3.62	8.8
Payroll clerk	2.05	4.32	6.4
Dallas			
General duty nurse	$2.09	$4.92	7.4
Medical technologist	2.23	5.01	7.0
Nursing aide	1.04	2.64	8.1
Cleaner	1.04	2.60	7.9
Payroll clerk	1.80	3.55	5.8
Los Angeles			
General nurse	2.38	6.19	8.3
Medical technologist	2.93	7.20	7.8
Nursing aide	1.57	3.45	6.8
Cleaner	1.49	3.39	7.1
Payroll clerk	2.18	4.28	5.8
New York City			
General duty nurse	2.40	7.00	9.3
Medical technologist	2.33	7.13	9.8
Nursing aide	1.49	5.22	11.0
Cleaner	1.52	4.88	10.2
Payroll clerk	2.08	---	---
San Francisco			
General duty nurse	2.39	7.03	9.4
Medical technologist	3.06	7.83	8.1
Nursing aide	1.85	4.92	8.5
Cleaner	1.77	4.53	8.1
Payroll clerk	2.09	5.13	7.8

[1] 1963 statistics on nurses and payroll clerks were for women only. 1963 average hourly earnings were derived by dividing mean weekly earnings by mean weekly hours for each area and occupation.

[2] 1964 data.

NOTE: Data are for short-term nongovernmental hospitals.

SOURCE: Bureau of Labor Statistics: *Yearbook of Labor Statistics*. U.S. Department of Labor. Washington. U.S. Government Printing Office, 1977; Bureau of Labor Statistics: *Industry Wage Survey, Hospitals, Mid-1963 and August 1975-January 1976*. U.S. Department of Labor. Washington. U.S. Government Printing Office, June 1964 and 1977.

Table 176. Average annual percent increases in average hospital expenses per patient day, according to contributing factors: United States, selected years 1960-76

(Data are based on a number of government and private sources)

Contributing factor	Period						
	1960-65[1]	1965-67	1967-71	1971-73	1974	1975	1976
	Average annual percent increase						
Total	6.7	10.4	14.0	10.5	9.8	15.8	14.7
Wages and prices	3.4	3.9	7.8	5.2	6.8	10.7	8.3
Wage rates	4.7	4.8	9.9	6.3	5.2	9.8	9.0
Prices of hospital purchases	1.3	2.6	4.8	3.8	9.0	11.0	7.1
Services	3.3	6.5	6.2	5.3	3.0	5.1	6.4
Hospital employees	1.7	3.9	2.9	2.3	0.7	2.7	2.2
Other expenses[2]	5.9	10.5	11.0	9.3	6.0	7.5	10.6
	Percent of total increase						
Wages and prices	50.7	37.5	55.7	49.5	69.4	67.7	56.3
Services	49.3	62.5	44.3	50.5	30.6	32.3	43.7

[1] Statistics calculated on a per patient day basis; statistics for all other periods are calculated on a per adjusted patient day basis. The latter includes an approximation of equivalent services to outpatients.

[2] Nonlabor expenses such as X-rays, laboratory tests, etc.

SOURCE: U.S. Congress, Congressional Budget Office: *Expenditures for Health Care, Federal Programs and Their Effects.* Washington. U.S. Government Printing Office, Aug. 1977. p. 29.

G. Nursing Homes: Charges for Care and Sources of Payment

Based on surveys of nursing homes conducted by the National Center for Health Statistics in 1964, 1969, and 1973–74, the average monthly charge for nursing home care increased from $185 in 1964 to $479 in 1973–74 or 159 percent. The largest percent increase in average charges occurred between 1964 and 1969 when charges increased 81 percent, or about 13 percent per year.

In contrast, the average charge increased by only 43 percent from 1969 to 1973–74, or about 8 percent per year. The slowing of the rate of increase during the 5-year period after 1969 was in part a consequence of the price and wage controls imposed by the Economic Stabilization Program that were in effect during the latter half of the period. The effects of the controls have apparently continued since the expiration of the program in the spring of 1974. Preliminary data from the 1977 National Nursing Home Survey show the average total monthly charge for nursing home residents during that year was $669, an increase of 40 percent over the 3½ year period between the 1977 and 1973–74 surveys, or 10 percent per year.

Over the course of a nursing home stay, payments for charges may come from several different sources. For example, Medicare may pay fully for the first 20 days of a nursing home stay. However, the next 8 days may involve only partial payment through Medicare supplemented by personal funds to cover the coinsurance payment, about $300 per month in 1973–74. Then Medicaid may be used to pay for some portion of the remainder of the stay. In general, the longer the patient remains in a nursing home the more likely it is that charges will be paid by Medicaid or other public assistance programs.

Data are available regarding the primary source of payment used by patients for the month preceding the 1973–74 survey of nursing home residents. Since the complement of patients residing in a nursing home at any given point in time is disproportionately made up of long-stay patients, the information derived from a survey of current patients reflects the sources of nursing home revenue rather than the funding of a typical nursing home admission.

In 1973–74, Medicaid was the most frequent primary source of payment used for charges to residents in nursing homes. Forty-eight percent of all nursing home residents received care financed primarily by Medicaid. The next most frequent primary source of payment was the resident's own income or family support (37 percent), followed by other public assistance or welfare (11 percent). Only a minority of the residents (1 percent) used Medicare for primary payment. Less than 1 percent of all the residents used each of the remaining sources (i.e., church support, Veterans Administration contract, initial payment/life care, no charge for care, and miscellaneous source) as the primary source of payment. Overall, 60 percent of the residents used public funds (i.e., Medicare, Medicaid, other public assistance or welfare) for primary payment.

The average monthly charge for residents receiving care primarily financed by Medicare ($754) was significantly higher than for those whose care was financed by any other source of payment. In comparison, significantly lower average charges were paid by residents using Medicaid ($503) and their own income or family support ($491). The average monthly charge for residents receiving care financed by other public assistance or welfare was $381. The average charge for residents using all other sources was the lowest at $225, probably because of the minimal charges for the life-care and no-charge residents who are included in this category.

The Medicaid program, initiated in 1966, was designed to ease the burden of medical care costs for the poor of all ages. The 1973–74 data show that utilization of Medicaid funds for nursing home care was extensive. Medicaid was the dominant source of payment for most residents in certified facilities. The proportion of Medicaid residents was 54 percent in facilities certified by both Medicare and Medicaid, 59 percent in Medicaid certified skilled nursing homes, and 53 percent in intermediate care facilities. The proportion of private pay residents (i.e., those

relying on their own income or family support for primary payment) was 36 percent in facilities certified by both Medicare and Medicaid, 32 percent in Medicaid-certified skilled nursing homes, and 36 percent in intermediate care facilities.

The utilization of Medicaid benefits was greater in large facilities since these facilities were most likely to be participating in the program. The proportion of Medicaid residents increased from 37 percent in small facilities (less than 50 beds) to 52 percent in large facilities (200 beds or more). In contrast, the residents' use of their own incomes for payment correspondingly decreased as the size of the facility increased.

This pattern may reflect a tendency on the part of private pay residents to utilize lower-cost, noncertified services since charges tend to be lower in small facilities. In contrast to Medicaid, use of Medicare benefits in nursing homes was infrequent. Nationally, only 1 percent of the residents used this source for primary payment during the month preceding the survey. About the same proportion of residents used this source regardless of the type of service or ownership, size, or region classification of their facility. Within facilities certified by both Medicare and Medicaid, Medicare recipients made up only 3 percent of the residents.

Table 177. Monthly charge for care in nursing homes and percent distribution of residents, according to selected facility and resident characteristics: United States, 1964, 1969, and 1973-74

(Data are based on reporting by a sample of nursing homes)

Selected facility and resident characteristic	Year					
	1964[1]		1969[1]		1973-74	
	Average total monthly charge[2]	Percent distribution of residents	Average total monthly charge[2]	Percent distribution of residents	Average total monthly charge[2]	Percent distribution of residents
All facilities	$185	100.0	$335	100.0	$479	100.0
FACILITY CHARACTERISTIC						
Type of service provided						
Nursing care	211	72.0	356	81.4	495	64.8
Personal care with nursing	118	28.0	242	18.6	448	35.2
Ownership						
Proprietary	208	60.2	352	68.0	489	69.8
Nonprofit and government	150	39.8	300	32.0	456	30.2
Size						
Less than 50 beds	---	---	288	27.3	397	15.2
50–99 beds	---	---	345	36.0	448	34.1
100–199 beds	---	---	363	26.2	502	35.6
200 beds or more	---	---	352	10.6	576	15.1
Geographic region						
Northeast	209	28.4	395	22.5	651	22.0
North Central	172	36.5	302	36.0	433	34.6
South	162	18.7	311	27.3	410	26.0
West	198	16.5	370	14.2	454	17.4
All residents	185	100.0	335	100.0	479	100.0
RESIDENT CHARACTERISTIC						
Age						
Under 65 years	162	11.4	288	10.8	434	10.6
65–74 years	186	18.9	332	16.5	473	15.0
75–84 years	188	41.8	343	39.5	488	35.5
85 years and older	190	28.0	343	33.2	485	38.8
Sex						
Male	175	34.6	323	30.4	466	29.1
Female	191	65.4	340	69.6	484	70.9
Level of care received						
Intensive nursing care	221	33.0	374	33.7	510	40.6
Other nursing care[3]	197	30.3	335	43.0	469	42.1
Personal care	162	25.6	293	18.0	435	16.4
No nursing or personal care	97	11.1	230	5.3	315	0.9

[1] Data have been adjusted to exclude residents of personal care homes.

[2] Includes life-care residents and no-charge residents.

[3] Data in 1964 and 1969 for other nursing care correspond to combined data for the limited and routine nursing care categories of 1973–74.

SOURCE: National Center for Health Statistics: Charges for care and sources for payment for residents in nursing homes, United States, National Nursing Home Survey, Aug. 1973-Apr. 1974, by E. Hing. *Vital and Health Statistics.* Series 13—No. 32. DHEW Pub. No. (PHS) 78–1783. Public Health Service. Washington. U.S. Government Printing Office. Nov. 1977.

Table 178. Monthly charge for care in nursing homes and percent distribution of residents, according to the primary source of payment during the month prior to the survey, certification, type of service provided, ownership, size, and geographic region of the home: United States, August 1973-April 1974

(Data are based on reporting by a sample of nursing homes)

Certification, type of service provided, ownership, size, and geographic region	Primary source of payment										
	Own income or family support	Medicare	Medicaid	Other public assist-ance or welfare	All other sources[1]	Total	Own income or family support	Medicare	Medicaid	Other public assist-ance or welfare	All other sources[1]
	Average total monthly charge					Percent distribution of residents					
All homes[2]	$491	$754	$503	$381	$225	100.0	36.7	1.1	47.9	11.4	3.0
Certification											
Both Medicare and Medicaid[3]	613	754	591	480	334	100.0	36.0	2 9	54.0	4.9	2.2
Skilled nursing home only[4]	489	. .	489	469	308	100.0	31.8	...	58 6	7.8	1.8
Intermediate care facility only	388	...	375	333	*389	100 0	35.8	.	53.1	9.7	1.4
Not certified	377	.	..	330	*89	100.0	50.6	...	..	39.3	10.2
Type of service provided											
Nursing care	516	803	501	398	296	100.0	35.9	1 2	51 1	9.5	2 3
Personal care with nursing	447	*623	507	361	156	100.0	38.2	0.8	41.9	14.7	4 3
Ownership											
Proprietary	525	754	486	373	406	100.0	34.5	1.2	52.0	11 0	1.4
Nonprofit and government	427	*751	556	397	136	100.0	41.9	0 9	38.4	12.2	6 6
Size											
Less than 50 beds	429	*625	431	296	*128	100.0	41.5	*0.6	37.1	17.5	3.4
50-99 beds	484	*786	449	356	186	100.0	37.8	0.9	47 9	10.9	2.5
100-199 beds	523	787	508	414	256	100.0	36.3	1 3	50.8	8.8	2.8
200 beds or more	506	*689	656	496	307	100.0	30.7	*1.3	51 6	12.3	4.1
Geographic region											
Northeast	637	*957	718	538	131	100.0	30.6	1.4	53.2	10.5	4.5
North Central	449	*738	454	360	252	100 0	44.4	0.8	35.6	16.1	3.0
South	452	*615	408	306	278	100.0	31.0	1.1	55.2	10.3	2.4
West	487	*672	442	323	*314	100.0	37.9	*1.2	54.6	4.6	1.9

[1] Includes church support, Veterans Administration contract, initial payment/life care, no charge for care, and miscellaneous sources.
[2] Includes only those residents who have lived in the nursing home for at least one month.
[3] Includes 20,900 residents in facilities certified by Medicare only.
[4] Includes 122,900 residents in facilities certified by Medicaid as both skilled nursing homes and intermediate care facilities.

SOURCE: National Center for Health Statistics: Charges for care and sources for payment for residents in nursing homes, United States, National Nursing Home Survey, Aug. 1973-Apr. 1974, by E. Hing. *Vital and Health Statistics.* Series 13—No. 32. DHEW Pub. No. (PHS) 78–1783. Public Health Service. Washington. U.S. Government Printing Office. Nov. 1977.

Table 179. Monthly charge for care in nursing homes and percent distribution of residents, according to the primary source of payment during the month prior to the survey, age, sex, primary reason for admission, and length of stay since current admission: United States, August 1973-April 1974

(Data are based on reporting by a sample of nursing homes)

Age, sex, primary reason for admission, and length of stay since current admission	Primary source of payment									
	Own income or family support	Medicare	Medicaid	Other public assistance or welfare	All other sources[1]	Own income or family support	Medicare	Medicaid	Other public assistance or welfare	All other sources[1]
	Average total monthly charge					Percent distribution of residents				
All residents[2]	$491	$754	$503	$381	$225	100.0	100.0	100.0	100.0	100.0
Age										
Under 65 years	497	*1,214	457	351	325	5.2	*1.4	12.0	20.9	19.8
65–74 years	470	*778	503	367	*264	12.6	*21.1	16.3	17.6	12.4
75–84 years	790	725	517	385	219	40.2	46.1	33.7	26.9	36.1
85 years and over	498	*760	505	402	152	42.0	31.5	38.0	34.6	31.7
Sex										
Male	471	*812	495	360	341	28.4	23.9	28.3	31.5	43.3
Female	499	735	506	390	*136	71.6	76.1	71.7	68.5	56.7
Primary reason for admission										
Physical	506	764	514	408	281	81.2	96.1	84.2	67.5	59.2
Social	384	*572	452	305	*126	8.6	*0.5	4.0	7.9	20.5
Behavioral	467	*480	436	331	*313	9.6	*2.9	11.3	22.9	9.6
Economic	*420	*558	*484	*302	*22	0.6	*0.5	0.6	*1.7	10.8
Length of stay since current admission										
1 to less than 6 months	549	795	517	412	331	21.7	82.5	17.1	13.2	17.9
6 to less than 12 months	512	*629	516	400	*276	18.3	*6.0	15.1	12.1	8.5
1 to less than 3 years	485	*473	503	392	261	34.5	*7.1	37.6	33.6	25.9
3 to less than 5 years	456	*740	500	367	*197	13.0	*1.9	15.9	17.3	15.5
5 years or more	412	*477	474	348	136	12.6	*2.5	14.3	23.9	32.2

[1] Includes church support, Veterans Administration contract, initial payment/life care, no charge for care, and miscellaneous sources.
[2] Includes only those residents who have lived in the nursing home for at least 1 month.

SOURCE: National Center for Health Statistics: Charges for care and sources for payment for residents in nursing homes, United States, National Nursing Home Survey, Aug. 1973-Apr. 1974, by E. Hing. *Vital and Health Statistics.* Series 13—No. 32. DHEW Pub. No. (PHS) 78-1783. Public Health Service. Washington. U.S. Government Printing Office. Nov. 1977.

H. Physicians' Fees and Incomes

Between 1970 and 1974, the latest date for which data are available from the American Medical Association, the net income of physicians rose at an average annual rate of 5.6 percent. Between 1971 and 1975, fees for initial office visits reported by a sample of physicians in selected specialties increased at average annual rates ranging from 2.1 percent for internists to 9.7 percent for pediatricians. In 1975, internists reported the highest fees for initial visits ($26.11), while the lowest average charge ($13.10) was reported by physicians in general practice.

Trends in physicians' incomes document the depressing effect of the Economic Stabilization Program's price and wage controls on physicians' incomes in 1972 and 1973, when they rose an average of only 3.6 percent over 1971, compared with an increase of 8.3 percent from 1970 to 1971. From 1973 to 1974, their incomes increased by 7.0 percent, a reflection of the "catchup" period of increases that followed the expiration of the program. Examination of the net income data by specialty show that surgeons and obstetricians-gynecologists earned the highest net incomes in both 1970 and 1974, while the ranking of the remaining specialties showed some fluctuation.

By major geographic division, fees for initial office visits in the Pacific Region were generally higher than the national average for all specialties in 1975. They were also higher than the national average for 4 of the 5 specialties in the Middle Atlantic States.

Table 180. Net income from medical practice and average annual percent change, according to specialty: United States, 1970–74

(Data are based on reporting by samples of physicians in office-based practice)

Specialty	Year					Average annual percent change 1970–74
	1970	1971	1972	1973	1974	
	Average net income					
All specialties	$41,789	$45,278	$47,240	$48,574	$51,997	5.6
General practice	33,859	39,823	41,277	41,915	44,727	7.2
Internal medicine	40,251	42,869	44,692	47,809	51,390	6.3
Surgery	50,701	54,045	56,041	57,228	60,510	4.5
Pediatrics	34,799	38,503	38,879	41,166	42,112	4.9
Obstetrics and gynecology	47,904	54,045	53,165	55,357	61,693	6.5
Psychiatry	39,986	37,248	39,124	38,536	41,258	0.8
Anesthesiology	39,432	47,293	49,536	48,092	54,365	8.4

SOURCE: American Medical Association: *Profiles of Medical Practice, 1977.* Chicago, 1977. p. 184. (Copyright 1977: used with the permission of the American Medical Association.)

Table 181. Fee for initial office visit and average annual percent change, according to specialty: United States, 1971 and 1973–75

(Data are based on reporting by samples of physicians in office-based practice)

Specialty	Year				Average annual percent change 1971–75
	1971	1973	1974	1975	
	Average fee for initial office visit				
General practice	$ 9.65	$10.73	$12.02	$13.10	7.9
Internal medicine	24.04	20.34	23.12	26.11	2.1
Surgery	17.09	17.59	18.88	20.81	5.0
Pediatrics	11.18	11.96	14.48	16.18	9.7
Obstetrics and gynecology	17.59	19.59	22.08	23.57	7.6

SOURCE: American Medical Association: *Profiles of Medical Practice, 1977.* Chicago, 1977. p. 158. (Copyright 1977: used with the permission of the American Medical Association.)

Table 182. Fee for initial office visit, according to geographic division and specialty: United States, 1975

(Data are based on reporting by a sample of physicians in office-based practice)

Geographic division	Specialty				
	General practice	Internal medicine	Surgery	Obstetrics and gynecology	Pediatrics
	Average fee for initial office visit				
United States	$13.10	$26.11	$20.81	$23.57	$16.18
New England	12.03	22.79	19.64	23.46	13.52
Middle Atlantic	12.64	27.23	24.33	26.27	17.99
East North Central	13.00	25.51	18.55	20.68	14.19
West North Central	11.56	20.63	17.84	19.19	14.77
South Atlantic	13.36	26.18	20.17	24.95	18.54
East South Central	12.52	25.24	18.47	21.36	14.56
West South Central	12.44	30.74	20.10	22.48	13.12
Mountain	11.94	26.50	18.36	18.75	13.84
Pacific	15.91	26.51	23.44	26.57	17.77

SOURCE: American Medical Association: *Profiles of Medical Practice, 1977.* Chicago, 1977. p. 160. (Copyright 1977: used with the permission of the American Medical Association.)

J. Economic Cost of Cancer

Estimates of the economic cost of illness, based on methodology developed in 1966 [1] and updated for 1972,[2] have been extended with some modifications for 1975 by staff of the Georgetown University Public Services Laboratory.[3] These data serve as the basis for an in-depth study of the total costs of illness and the cost of a single disease category, cancer.[4] The methodology used by the Public Services Laboratory incorporates discount rates of 2.5 and 10 percent for lost earnings stemming from premature mortality. The latter rate is employed together with a 6 percent discount rate in the discussion of the cost of cancer and is the rate used in table 183 which shows estimates of the overall cost of illness for 1975.

In 1975, estimated total illness costs, with future lost earnings discounted at 10 percent, were $238.9 billion. Direct costs for the care and treatment of disease were $118.5 billion or 50 percent of the total, while morbidity costs—work lost to the economy because of illness—amounted to $57.8 billion or 24 percent of the total. Costs for premature mortality were $62.5 billion in 1975. Diseases of the circulatory system were the most "costly" category of illness in the 1963 and 1972 studies and again were most costly in 1975, followed by accidents, poisonings, and violence; diseases of the digestive system; neoplasms; and mental disorders. Together, these diseases accounted for 56 percent of total illness costs in 1975.

The dollar amounts and percent distribution of total economic costs in fiscal year 1975 are given by type of cost for all diseases and neoplasms, with mortality costs discounted at 6 and 10 percent. The total costs of neoplasms ranged between $19 billion and $22 billion for fiscal year 1975. The indirect cost of mortality was by far the largest component of the economic costs of neoplasms, accounting for 71 percent of the total at a 6 percent discount rate, while morbidity only contributed 5 percent and direct costs made up 24 percent of the total. In contrast, for all diseases, direct costs were 41 percent of the total; mortality contributed 36 percent, and mobidity accounted for 24 percent at a 6 percent discount rate.

About 9 percent of the total costs of all diseases were attributable to neoplasms. The direct costs of neoplasms were 5 percent of all direct costs in fiscal year 1975. Morbidity as a result of neoplasms accounted for 2 percent of all costs associated with morbidity. For mortality, however, neoplasms represented a much larger share of costs, ranging from 18 to 20 percent.

Expenditures were estimated for short-stay hospital care, physicians' services, and indirect costs of mortality by cancer site. Expenditures for direct costs reflect the quantity and unit cost of medical care; indirect mortality costs are estimates of earnings lost because of death from a specific disease and take into account the distribution of decedents according to their age, sex, participation in the labor force, and earnings. In 1975, more than $4.1 billion were spent on hospital care for neoplasms, and more than $1.2 billion on physicians' services. The indirect costs of mortality ranged from $12.4 billion at a 10 percent discount rate to $15.9 billion at 6 percent.

Aside from the residual category, digestive and respiratory organs were the most costly sites for malignant neoplasms. The digestive system accounted for 16 percent of the expenditures for hospital care, 9 percent of those for physicians' services, and 20 percent of those for mortality. The respiratory system required smaller expenditures for hospital care (10 percent of the total) and physicians' services (6 percent) but was responsible for

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[1] Rice, D.P.: Estimating the cost of illness. *Health Economics Series*, No. 6. Public Health Service Pub. No. 947–6. Division of Medical Care Administration. U.S. Government Printing Office, May 1966.

[2] Cooper, B.S. and Rice, D.P.: The economic cost of illness revisited. *Social Security Bulletin* 39 (2): 21–36, Feb. 1976.

[3] Paringer, L., Berk, A., and Mushkin, S.: *The Economic Cost of Illness, Fiscal Year 1975*. Report B1A. Georgetown University, Public Services Laboratory. Washington, D.C., May 1977.

[4] Rice, D.P. and Hodgson, T.A.: Social and Economic Implications of Cancer in the United States. Paper presented to the Expert Committee on Cancer Statistics of the World Health Organization and International Agency for Research on Cancer, Madrid, June 1978.

26 percent of mortality costs. Deaths from neoplasms of the respiratory system occurred considerably more frequently among men than women and at somewhat younger ages than was the case for the digestive system.

Consequently, the average indirect cost per death was higher for respiratory organs because earnings were higher for men than for women, and more productive years were lost because of the younger age at death.

Table 183. Economic cost of illness, according to type of cost and disease category: United States, fiscal year 1975

(Data are based on multiple sources)

Disease category	All costs	Type of cost			
		Direct cost	Indirect cost		
			Total	Morbidity	Mortality
	Amount in millions				
All diseases[1]	$238,875	$118,500	$120,375	$57,846	$62,529
Infective and parasitic diseases	4,238	2,027	2,211	1,559	652
Neoplasms	18,933	5,279	13,654	1,105	12,549
Endocrine, nutritional, and metabolic diseases	6,307	3,337	2,970	1,695	1,275
Diseases of the blood and blood-forming organs	1,153	676	477	281	196
Mental disorders	18,890	9,411	9,479	8,751	728
Diseases of the nervous system and sense organs	14,049	7,459	6,590	5,706	884
Eye diseases[2]	5,022	4,648	374	374	(2)
Diseases of the circulatory system	45,687	16,017	29,670	8,744	20,926
Cerebrovascular diseases[2]	6,088	2,633	3,455	353	3,102
Diseases of the respiratory system	18,714	7,571	11,143	8,542	2,601
Diseases of the digestive system	21,660	14,564	7,096	3,438	3,658
Diseases of the oral cavities, salivary glands, and jaws[2]	8,123	7,777	346	346	(2)
Diseases of the genitourinary system	7,985	5,575	2,410	1,770	640
Complications of pregnancy, childbirth, and puerperium	3,631	3,387	244	193	51
Diseases of the skin and subcutaneous tissue	2,574	2,120	454	399	55
Diseases of the musculoskeletal system and connective tissue	12,651	5,113	7,538	7,351	187
Congenital anomalies	1,524	432	1,092	437	655
Certain causes of perinatal morbidity and mortality	1,053	64	989	---	989
Symptoms and ill-defined conditions	5,956	3,180	2,776	1,260	1,516
Accidents, poisoning, and violence	27,482	6,846	20,636	5,669	14,967
Other	7,262	6,316	946	946	---
Unallocated[3]	19,126	19,126	---	---	---

[1] Figures may not add to total because of rounding.

[2] Included in previous subtotal for disease category.

[3] Includes expenditures for prepayment and administration, government public health activities, other health services, research, and construction.

SOURCE: Paringer, L., Berk, A., and Mushkin, S.: *Economic Cost of Illness, Fiscal Year 1975.* Report B1A. Georgetown University, Public Services Laboratory. Washington, D.C., May 12, 1977. p. 7.

Table 184. Estimated cost of illness and percent distribution, according to type of cost, disease category, and discount rate: United States, fiscal year 1975

(Data are based on multiple sources)

Disease category and discount rate	All costs	Type of cost			
		Direct cost[1]	Indirect cost		
			Total	Morbidity	Mortality
	Amount in millions				
All diseases					
10 percent	$219,749	$99,374	$120,375	$57,846	$62,529
6 percent	245,145	99,374	145,771	57,846	87,925
Neoplasms					
10 percent	18,933	5,279	13,654	1,105	12,549
6 percent	22,358	5,279	17,079	1,105	15,974
	Percent distribution				
All diseases					
10 percent	100 0	45.2	54.8	26.3	28.5
6 percent	100.0	40.5	59.5	23 6	35 9
Neoplasms					
10 percent	100 0	27.9	72.1	5.8	66 3
6 percent	100.0	23.6	76 4	4.9	71.5
	Percent of all diseases				
Neoplasms					
10 percent	8.6	5.3	11 3	1 9	20.1
6 percent	9.1	5.3	11.7	1.9	18.2

[1] Excludes unallocated expenditures for prepayment and administration, government public health activities, other health services, research, and construction.

SOURCE: Paringer, L., Berk, A., and Mushkin, S.: *Economic Cost of Illness, Fiscal Year 1975.* Report B1A. Georgetown University, Public Services Laboratory. Washington, D.C., May 12, 1977

Table 185. Estimated cost of cancer and percent distribution, according to type of cost and cancer site: United States, 1975

(Data are based on multiple sources)

Site	Type of cost			
	Short-stay hospital	Physicians' services	Indirect cost mortality	
			6-percent discount	10-percent discount
	Amount in millions			
All neoplasms	$4,131.6	$1,245.6	$15,868.7	$12,448.0
Digestive organs	669.5	114.1	3,225.8	2,641.6
Respiratory organs	426.9	78.0	4,052.4	3,344.2
Skin	84.4	46.1	376.5	282.7
Breast	344.3	84.3	1,536.6	1,199.7
Female genital organs	297.9	73.9	978.9	763.2
Male genital organs	169.4	51.2	402.3	319.4
Leukemia	130.7	23.9	897.6	595.0
All other malignant neoplasms	1,092.7	259.1	4,059.6	3,089.0
Benign and unspecified	915.8	514.9	338.9	213.2
	Percent distribution			
All neoplasms	100.0	100.0	100.0	100.0
Digestive organs	16.2	9.2	20.3	21.2
Respiratory organs	10.3	6.3	25.5	26.9
Skin	2.0	3.7	2.4	2.3
Breast	8.3	6.8	9.7	9.6
Female genital organs	7.2	5.9	6.2	6.1
Male genital organs	4.1	4.1	2.5	2.6
Leukemia	3.2	1.9	5.7	4.8
All other malignant neoplasms	26.4	20.8	25.6	24.8
Benign and unspecified	22.2	41.3	2.1	1.7

SOURCE: Rice, D. P., and Hodgson, T. A.: Social and Economic Implications of Cancer in the United States. Paper presented to the Expert Committee on Cancer Statistics of the World Health Organization and International Agency for Research on Cancer. Madrid, June 1978. p. 49.

K. Research and Development Support

In fiscal year 1977, $5.5 billion from both public and private sources were spent for research and development in medical and health-related activities. Total Federal Government research and development expenditures reached a level of $24.5 billion in fiscal year 1977. Of this total, $3.35 billion, or 13.7 percent of the total Federal research and development effort, were devoted to health. Expenditures by the Department of Health, Education, and Welfare were $2.61 billion, or 88 percent of the total Federal health research effort. More specifically, the biomedical research conducted by the National Institutes of Health was funded at $2.24 billion, or 67 percent of the Federal health total.

Expenditures for health-related research and development rose at an annual rate of nearly 11 percent between 1960 and 1977, spurred mainly by the increase in Federal Government expenditures. In 1960, the Federal share of the total was 50 percent; by 1977 this share had risen to 61 percent. The second largest contributor was private industry, and the greatest share of expenditures from this sector of the economy was devoted to drug research and development.

As impressive as the growth of expenditures has been, the purchasing power of these funds has been eroded significantly over the years as a result of the inflation that has affected the national economy. The National Institutes of Health have developed, through a contract, a price deflator for biomedical research and development that permits an examination of changes in expenditures on a constant dollar basis (i.e., eliminating the illusory gains lost to inflation).

Between 1960 and 1977, national health research and development expenditures increased at an annual real rate of 5.9 percent, with Federal expenditures rising at a rate of 7.2 percent. Forty-five percent of the increase in health-related research and development expenditures was offset by inflation, compared with nearly two-thirds of the growth in gross national product during the same period. Most of the growth in real outlays for medical and health-related research occurred between 1960 and 1967, when expenditures increased at an average annual rate of 11.2 percent. Between 1967 and 1977, the rate of increase slowed to 2.3 percent.

Table 186. Federal obligations for all research and development and health research and development, according to agency: United States, fiscal year 1977

(Data are based on multiple sources)

Agency	All research and development[1]	Health research and development	
		Total[2]	As percent of all research and development
	Amount in millions		
All Federal agencies	$24,457.7	$3,351.4	13.7
Department of Health, Education, and Welfare	2,959.2	2,612.5	88.3
National Institutes of Health	2,244.2	2,244.2	100.0
Other Public Health Service	305.1	305.1	100.0
National Institute of Education	85.7	---	---
Office of Education	175.7	---	---
Office of Human Development Services	79.1	28.3	35.8
Office of the Secretary	20.0	4.9	24.5
Social and Rehabilitation Service[3,4]	29.3	30.0	60.7
Social Security Administration[3,4]	20.1		
Other agencies	21,498.5	738.9	3.4
Department of Agriculture	525.3	84.8	16.1
Department of Commerce	247.4	5.7	2.3
Department of Defense	11,171.8	150.5	1.3
Department of Interior	348.4	11.3	3.2
Department of Justice	45.0	2.2	4.9
Department of Labor	34.6	3.0	12.2
Department of State	46.2	23.7	51.3
Department of Transportation	407.4	6.7	1.6
Consumer Product Safety Commission	5.7	5.7	100.0
Energy Research and Development Administration	3,609.8	181.2	5.0
Environmental Protection Agency	361.4	56.2	15.6
National Aeronautics and Space Administration	3,609.8	47.8	1.3
National Science Foundation	686.2	55.4	8.1
Tennessee Valley Authority	31.7	0.2	0.6
Veterans Administration	104.5	104.5	100.0
All other departments and agencies	263.3	---	---

[1] Represents estimated fiscal year 1977 figures, with actual fiscal year 1977 data substituted for health agencies (Public Health Service, Consumer Product Safety Commission, Veterans Administration).

[2] Preliminary estimates.

[3] Reorganized during fiscal year 1977.

[4] Totals shown for health research and development have been combined for these agencies.

SOURCE: Office of Program Planning and Evaluation, National Institutes of Health, Public Health Service: Selected data.

Table 187. National expenditures for health research and development and average annual percent change, according to source of funds: United States, selected fiscal years 1960–77

(Data are based on multiple sources)

Fiscal year and period	Total	Source of funds			
		Government		Industry[1]	Nonprofit organization
		Federal	State		
	Amount in millions				
1960	$ 918	$ 448	$ 78	$ 253	$139
1967	2,359	1,459	122	580	198
1970	2,827	1,667	150	795	215
1971	3,133	1,877	163	860	233
1972	3,478	2,147	179	925	227
1973	3,691	2,225	201	1,033	232
1974	4,415	2,754	222	1,187	252
1975	4,640	2,799	239	1,322	280
1976[2]	4,988	3,023	251	1,438	276
1977[3]	5,519	3,344	261	1,625	289
	Average annual percent change				
1960-77	11.1	12.6	7.4	11.6	4.4
1960-67	14.4	18.4	6.6	12.6	5.2
1967–72	8.1	8.0	8.0	9.8	2.8
1972-77	9.7	9.3	7.8	11.9	4.9
1970-71	10.8	12.6	8.7	8.2	8.4
1971-72	11.0	14.4	9.8	7.6	−2.6
1972-73	6.1	3.6	12.3	11.7	2.2
1973-74	19.6	23.8	10.4	14.9	8.6
1974-75	5.1	1.6	7.7	11.4	11.1
1975-76[2]	7.5	8.0	5.0	8.8	−1.4
1976-77[3]	10.6	10.6	4.0	13.0	4.7

[1] Includes expenditures for drug research. These expenditures are included in the "drugs and sundries" component of the Social Security Administration's National Health Expenditure Series, not under "research."

[2] Estimates.

[3] Preliminary estimates.

SOURCE: Office of Program Planning and Evaluation, National Institutes of Health, Public Health Service: Selected data.

Table 188. National expenditures for health research and development in 1968 dollars and average annual percent change, according to source of funds: United States, selected fiscal years 1960-77

(Data are based on multiple sources)

Fiscal year and period	Total	Source of funds			
		Government		Industry[1]	Nonprofit organization
		Federal	State		
	Amount in millions				
1960	$1,174	$ 573	$100	$324	$178
1967	2,471	1,528	128	608	207
1970	2,525	1,489	134	710	192
1971	2,645	1,584	138	726	197
1972	2,797	1,726	144	744	183
1973	2,833	1,708	154	793	178
1974	3,186	1,987	160	857	182
1975	3,025	1,825	156	862	183
1976[2]	3,029	1,836	152	873	168
1977[3]	3,088	1,871	146	909	162
	Average annual percent change				
1960–77	5.9	7.2	2.3	6.3	−0.6
1960–67	11.2	15.0	3.6	9.4	2.2
1967–72	2.5	2.5	2.4	4.1	−2.4
1972–77	2.0	1.6	0.3	4.1	−2.4
1970–71	4.8	6.4	3.0	2.3	2.6
1971–72	5.8	8.9	4.4	2.5	−7.1
1972–73	1.3	−1.0	6.9	6.6	−2.7
1973–74	12.5	16.3	3.9	8.1	2.3
1974–75	−5.1	−8.2	−2.5	0.6	0.5
1975–76[2]	0.1	0.6	−2.6	1.3	−8.2
1976–77[3]	2.0	1.9	−4.0	4.1	−3.6

[1] Includes expenditures for drug research. These expenditures are included in the "drugs and sundries" component of the Social Security Administration's National Health Expenditure Series, not under "research."

[2] Estimates.

[3] Preliminary estimates.

NOTE: Amounts were deflated using the Biomedical Research and Development deflator (1968= 100) developed for the National Institutes of Health by Westat, Inc.

SOURCE: Office of Program Planning and Evaluation, National Institutes of Health, Public Health Service: Selected data.

APPENDIX I

Sources and Limitations of the Data

CONTENTS

APPENDIX I

Sources and Limitations of Data

INTRODUCTION

This report consolidates the most current data on the health of the population of the United States, the availability and use of health resources, and health care costs and financing. The information was obtained from the data files and/or published reports of many governmental and nongovernmental agencies and organizations. In each case, the sponsoring agency or organization collected data using its own methods and procedures, and therefore the data in this report vary considerably with respect to source, method of collection, definitions, and reference period.

Although a detailed description and comprehensive evaluation of each data source is beyond the scope of this appendix, users should be aware of the general strengths and weaknesses of the different data collection systems. For example, population-based surveys obtain socioeconomic data, data on family characteristics, and information on the impact of an illness such as days lost from work or limitation of activity. However, they were limited by the amount of information a respondent remembers or is willing to report. Detailed medical information such as precise diagnoses or the types of operations performed may not be known and so will not be reported.

Conversely, health care providers, such as physicians and hospitals, usually have good diagnostic information but little or no information about the socioeconomic characteristics of individuals or the impact of an illness on the individual.

The population covered by different data collection systems may not be the same, and understanding the differences is critical in interpreting the data. Data on vital statistics and national expenditures cover the entire population. Most data on morbidity and utilization of health resources cover only the civilian noninstitutionalized population. Thus statistics are not included for military personnel, who are usually young; for institutionalized people, who may, for example, be prisoners of any age; or nursing home residents, who are usually old.

All data collection systems are subject to error, and records may be incomplete or contain inaccurate information. People may not remember essential information, a question may not mean the same thing to different respondents, and some institutions or individuals may not respond at all. The sponsoring agencies do the best they can, but it is not always possible to measure the magnitude of these errors or their impact on the data. Where possible, the tables have notes describing the universe and the method of data collection to enable the user to place his or her own evaluation on the data. In

many instances, data do not add to totals because of rounding.

Data collection systems based on samples have, in addition to errors mentioned above, sampling error, which is a measure of the variability introduced because only a sample of the universe was taken. In general, data with large sampling errors are not shown in this report. Most tables also show when the data are based on a sample.

The fact that a sample has an additional source of error does not mean that sample data are less reliable than full-count data. Frequently the money saved by taking only a sample is spent on reducing other forms of error through more pretesting of survey forms, better quality control, and other measures.

The descriptive summaries which follow provide a general overview of study design, methods of data collection, and reliability and validity of the data. More complete and detailed discussions are found in the publications referenced at the end of each summary. The data set or source is listed under the agency or organization that sponsored the data collection.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Public Health Service

OFFICE OF HEALTH POLICY, RESEARCH, AND STATISTICS

National Center for Health Statistics

A. Vital Registration System

The vital registration system of the National Center for Health Statistics (NCHS) collects and publishes data on births, deaths, marriages, and divorces in the United States. Fetal deaths are classified and tabulated separately from other deaths. The Division of Vital Statistics obtains information on births and deaths from the registration offices of all States, certain cities that perform their own data collection, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. Geographic coverage has been complete since 1933.

Until 1972, microfilm copies of all deaths and a 50-percent sample of births were received from all registration areas and processed by NCHS. Beginning in 1972, some States began sending their data to NCHS through the Cooperative Health Statistics System (CHSS). States that participate in the CHSS program process 100 percent of their death and birth records and send the entire data file to NCHS on computer tape. The number of participating States has grown from 6 in 1972 to 38 in 1978.

The standard certificates of birth, death, and fetal death recommended by NCHS are modified in each registration area to serve the area's needs. However, most certificates conform closely in content and arrangement to the standard certificate, and all certificates contain a minimum data set specified by NCHS.

In most areas, practically all births and deaths are registered. The most recent survey of the completeness of birth registration, conducted on a sample of births during 1964–68, showed that 99.3 percent of all births in the United States during that period were registered. No comparable information is available for deaths, but it is generally believed that death registration in the United States is at least as complete as birth registration. However, there are isolated areas in the United States where underreporting of births and deaths may be severe enough to affect the validity of local statistics.

Various sources are utilized in obtaining marriage and divorce data. Currently, State and local officials annually provide complete counts of marriages by month of occurrence in States with central files. In the areas without central files, the counts are obtained from surveys conducted by State officials and NCHS.

Statistical information on characteristics of marriages and divorces has been provided by

States participating in the marriage registration area and the divorce registration area, which were designated in 1957 and 1958, respectively. Samples of marriage and divorce records are selected and data are extracted from microfilm copies of the original certificates. The sampling rates range from 100 percent to 5 percent in different States for marriage estimates and from 100 percent to 10 percent for divorce estimates. Beginning in 1972, some States began sending their data through CHSS. These States provide data on a 100-percent basis. In 1978, 10 States provided marriage data and 7 provided divorce data through CHSS.

For more information see: National Center for Health Statistics, *Vital Statistics of the United States, 1973,* Vol. I, Part A, DHEW Pub. No. (HRA) 77–1113, Vol. II, Part A, DHEW Pub. No. (HRA) 77–1101, and Vol. III, DHEW Pub. No. (HRA) 77–1103, Health Resources Administration, Washington, U.S. Government Printing Office, 1977.

B. National Survey of Family Growth

Data from the National Survey of Family Growth (NSFG) are based on a five-stage probability sample of civilian noninstitutionalized women living in the coterminous United States who are 15–44 years of age and who are currently married, previously married, or single mothers with their own children living in the household.

The counties and independent cities of the United States were combined to form a frame of primary sampling units (PSU's), and 101 PSU's were selected as the first-stage sample for Cycle I of the NSFG, which was conducted from June 1973 to February 1974. The next three stages produced a clustered sample of 28,988 households within the 101 PSU's. At 26,028 of these households (89.8 percent) a household screener interview was completed. These screeners produced a fifth-stage sample of 10,879 women, of which 9,797 were interviewed.

Cycle II of the NSFG was conducted from January to September in 1976. The sample design was basically the same as it was in Cycle I. The sample consisted of 27,162 households in 79 PSU's. Household screener interviews were completed at 25,479 of these households (93.8 percent). Of the 10,202 women in the sample, 8,611 were interviewed.

In order to produce estimates for the entire population of eligible U.S. women, data for the interviewed sample women are inflated by the reciprocal of the probability of selection at each stage of sampling and adjusted for both screener and interview nonresponse. In addition, estimates for ever-married women in 12 age-race classes are poststratified to benchmark population values based on data from the Census Bureau's Current Population Survey.

Quality control procedures for interviewer selection and training, field listing and data processing were built into the NSFG to minimize nonsampling error and bias. In addition, the nonresponse adjustments in the estimator were designed to minimize the effect of nonresponse bias by assigning to nonrespondents the characteristics of similar respondents. Sampling errors for the NSFG were estimated by balanced half-sample replication.

Discussion of the balanced half-sample technique, summary sampling error charts, and detailed information on the NSFG sample design are available in the report: National Center for Health Statistics, National Survey of Family Growth, Cycle I, Sample design, estimation procedures, and variance estimation, by D.K. French, *Vital and Health Statistics,* Series 2–No. 76, DHEW Pub. No. (PHS) 78–1350, Public Health Service, Washington, U.S. Government Printing Office, Jan. 1978.

C. Health Interview Survey

The Health Interview Survey (HIS) is a continuing nationwide sample survey in which data are collected through personal household interviews. Information is obtained on personal and demographic characteristics, illnesses, injuries, impairments, chronic conditions, utilization of health resources, and other health topics. The household questionnaire is reviewed each year and supplemental topics are added and deleted. For most topics, data are collected over an

entire calendar year. The universe for HIS is the civilian noninstitutionalized population of the United States. Members of the Armed Forces, U.S. nationals living in foreign countries, and people who died during the reference period are excluded.

The survey is based on a multistage probability cluster sample of 376 primary sampling units selected from approximately 1,900 geographically defined units in the first stage and 12,000 segments containing about 42,000 eligible occupied households in the final stage. The usual HIS sample is about 116,000 persons in 40,000 interviewed households in a year. The response rate is ordinarily about 96 percent of the eligible households. National estimates are based on a four-stage estimation procedure involving inflation by the reciprocal of the probability of selection, a nonresponse adjustment, ratio adjustment, and poststratification.

For more detailed information on the HIS design, limitations of data, and sampling errors of the estimates, see: National Center for Health Statistics, Current estimates from the Health Interview Survey, United States, 1976, by E.R. Black, *Vital and Health Statistics,* Series 10–No. 119, DHEW Pub. No. (PHS) 78–1547, Public Health Service, Washington, U.S. Government Printing Office, Nov. 1977.

D. Health and Nutrition Examination Survey

This survey collects needed health-related data which can be obtained only by direct physical examinations, clinical and laboratory tests, and related measurement procedures. In Cycle I of the Health and Nutrition Examination Survey (HANES I), a major purpose was to measure and monitor indicators of the nutritional status of the American people. In addition, a more detailed health examination including assessment of unmet health needs and determination of a number of health conditions, such as dermatological and ophthalmological conditions, various chronic diseases, and related measures was given to a subsample.

The HANES I target population was the civilian noninstitutionalized population 1–74 years of age residing in the coterminous United States, except for people residing on any of the reservation lands set aside for the use of American Indians. The sample design is a multistage, stratified probability sample of clusters of persons in land-based segments. The sample areas consist of 65 primary sampling units (PSU's) selected from the 1,900 PSU's in the coterminous United States. Within each PSU a systematic random sample of segments was selected which overrepresented segments in enumeration districts with an average family income of less than $3,000 in 1959. Each segment consisted of an expected eight housing units. A household interview was conducted in each housing unit to identify household members and select the sample persons for the nutrition examination at specified rates by age and sex groups. A subsample of people 25–74 years of age also was selected to receive the more detailed health examination. Groups at high risk of malnutrition were oversampled at known rates throughout the process.

Data were collected in two mobile examination centers (MEC's) by specially trained teams of examination staff. The MEC's were set up for a period of 3–6 weeks in each of the 65 sample locations. Health examination representatives completed medical histories in households and arranged appointments for sample persons to be examined at MEC's. Household interviews were completed for over 96 percent of the 28,043 persons selected for the HANES I sample, and about 75 percent (20,749) were examined between 1971 and 1974.

The estimation procedure used to produce national statistics involves inflation by reciprocals of the probabilities of selection, adjustment for nonresponse, and poststratified ratio adjustment to population totals. Sampling errors also are estimated to measure the reliability of the statistics.

For more information on HANES I, see: National Center for Health Statistics, Plan and operation of the Health and Nutrition Examination Survey, United States, 1971–1973, *Vital and Health Statistics,* Series 1–Nos. 10a and 10b, DHEW Pub. No. (HSM) 73–1310, Health Services and Mental Health

Administration, Washington, U.S. Government Printing Office, Feb. 1973.

E. Master Facility Inventory

The Master Facility Inventory (MFI) is a comprehensive file of inpatient health facilities in the United States. The three broad categories of facilities in the MFI are: hospitals, nursing and related care homes, and other custodial or remedial care facilities. To be included in the MFI, hospitals must have at least six inpatient beds, and nursing and related care homes must have at least three inpatient beds.

The MFI is kept current by the periodic addition of names and addresses obtained from State licensing agencies for all newly established inpatient facilities. In addition, annual surveys of hospitals and a periodic survey of nursing homes and other facilities are conducted to update name and location, type of ownership, number of beds, and number of residents or patients in the facilities.

The hospital survey was conducted in conjunction with the American Hospital Association (AHA) Annual Survey of Hospitals from 1968 through 1975. The AHA performed the data collection for its member hospitals, while NCHS collected the data for the approximately 400 non-AHA registered hospitals. Beginning in 1976, all of the data collection was performed by the AHA.

Hospitals are requested to report data for the full year ending September 30. Slightly more than half of the responding hospitals used this reporting period in the 1976 survey. The remaining hospitals used various other reporting periods.

The nursing home and other facilities survey was conducted by NCHS in 1963, 1967, 1969, 1971, 1973, and 1976. In 1976 data for 16 States were collected at least partially through the Cooperative Health Statistics System (CHSS). There may have been changes in data collection procedures, coverage, definitions, and concepts in preliminary data from these 16 States in 1976.

The response rate for the 1976 hospital survey was about 92 percent. The response rate for the 1976 nursing home and other facilities survey was about 95 percent for the portion of the survey not conducted through CHSS.

Statistics derived from the hospital and nursing home and other facilities surveys were adjusted for both facility and item nonresponse. Missing items on the questionnaire were imputed, when possible, by using information reported by the same facility in a previous survey. When data were not available from a previous census for a responding facility, the data were imputed by using data from similar responding facilities. Similar facilities are defined as those with the same types of ownership and service and approximately the same bed size.

For more detailed information on the MFI, see: National Center for Health Statistics, Design and methodology of the 1967 Master Facility Inventory Survey, *Vital and Health Statistics,* PHS Pub. No. 1000–Series 1–No. 9, Public Health Service, Washington, U.S. Government Printing Office, Jan. 1971.

F. Hospital Discharge Survey

The Hospital Discharge Survey (HDS) is a continuing nationwide sample survey of short-stay hospitals in the United States. The scope of HDS covers discharges from general and specialty hospitals located in the 50 States and the District of Columbia, exclusive of military and Veterans Administration hospitals and hospital units in institutions such as prisons or homes for dependent children. Only hospitals having six or more beds for patient use and in which the average length of stay for all patients is less than 30 days are included in the survey.

The sample was selected from a frame of about 7,500 short-stay hospitals listed in the Master Facility Inventory. A two-stage stratified sample design was used, and hospitals were stratified according to bed size and geographic region. The largest hospitals were selected with certainty in the sample, and the probability of selection of a hospital decreased as the bed size of the hospital decreased. Within each sample hospital, a systematic sample of discharges is selected from the daily listing sheet. The within-hospital

sampling ratio for selecting discharges varies inversely with the probability of selection of the hospital, so that the overall probability of selecting a discharge is approximately the same in each bed-size class.

Survey hospitals use an abstract form to transcribe data from the face sheet of hospital records. Forms were completed by either hospital staff or representatives of the National Center for Health Statistics.

The basic unit of estimation for HDS is the sample patient abstract. The estimation procedure involves inflation by reciprocals of the probabilities of selection, adjustment for nonresponding hospital and missing abstracts, and ratio adjustments to fixed totals. Of the 511 hospitals selected for the survey, 472 were within the scope of the survey and 419 participated in the survey in 1976. Data were abstracted from about 223,000 medical records.

For more detailed information on the design of HDS and the magnitude of sampling errors associated with HDS estimates, see: National Center for Health Statistics, Utilization of short-stay hospitals, Annual summary for the United States, 1976, by A.L. Ranofsky, *Vital and Health Statistics,* Series 13–No. 37, DHEW Pub. No. (PHS) 78–1788, Public Health Service, Washington, U.S. Government Printing Office, June 1978.

G. National Nursing Home Surveys

These two sample surveys were conducted by NCHS to obtain information on nursing homes, their expenditures, residents, staff, and, in the most recent survey, discharged patients. The first survey was conducted between August 1973 and April 1974. The most recent National Nursing Home Survey (NNHS) was conducted from May through December 1977.

Data on facilities were collected by personal interviews with administrators; facilities' accountants completed questionnaires on expenditures. Resident data were collected by a nurse familiar with the care provided to the resident. The nurse relied on the medical record and personal knowledge of the residents. Employees completed a self-administered questionnaire. Discharge data, collected only in the most recent NNHS, were based on information recorded in the medical record.

For the initial survey conducted in 1973–74, the universe included only those nursing homes which provided some level of nursing care. Thus, homes providing only personal or domiciliary care were excluded. The sample of 2,118 homes was selected from the 17,685 homes providing some level of nursing which were listed in the 1971 Mastery Facility Inventory (MFI) or which opened for business in 1972. Data were obtained from about 25,000 staff and 20,000 residents. Response rates were 97 percent for facilities, 88 percent for expenditures, 98 percent for residents, and 82 percent for staff.

The scope of the 1977 NNHS encompassed all types of nursing homes, including personal care and domiciliary care homes. The sample of about 1,700 facilities was selected from 23,105 nursing homes in the sampling frame, which consisted of all homes listed in the 1973 MFI and those not on the listing and opening for business between 1973 and December 1976. About 18,900 staff, 8,000 residents, and 5,900 discharged residents were selected for the sample. Estimates from the 1977 NNHS presented in this report are provisional, since they are based on a subsample of about 340 of the 1,700 facilities in the sample. Provisional response rates were 95 percent for facilities, 84 percent for expenditures, 80 percent for staff, 99 percent for residents, and 97 percent for discharges.

Statistics from the NNHS were derived by a ratio-estimating procedure. Statistics were adjusted for failure of a home to respond, failure to fill out one of the questionnaires, and failure to complete an item on a questionnaire.

For more information on the 1973–74 NNHS, see: National Center for Health Statistics, Selected operating and financial characteristics of nursing homes, United States, 1973–74 National Nursing Home Survey, by M.R. Meiners, *Vital and Health Statistics,* Series 13–No. 22, DHEW Pub. No. (HRA) 76–1773, Health Resources Administration, Washington, U.S. Government Printing Office, Dec. 1975. For more information on the 1977

NNHS, see: National Center for Health Statistics, Comparison of nursing home residents and discharges, 1977 National Nursing Home Survey, by E. Hing and A. Zappolo, *Advance Data from Vital and Health Statistics*, No. 29, DHEW Pub. No. (PHS) 78–1250, Public Health Service, Hyattsville, Md., May 17, 1978.

H. National Ambulatory Medical Care Survey

The National Ambulatory Medical Care Survey (NAMCS) is a continuing national probability sample of ambulatory medical encounters. The scope of the survey covers physician-patient encounters in the offices of physicians classified by the American Medical Association or American Osteopathic Association as "office-based, patient care" physicians. Excluded are visits to hospital-based physicians, visits to the specialists in anesthesiology, pathology, and radiology, and visits to physicians who are principally engaged in teaching, research, or administration. Telephone contacts and nonoffice visits are also excluded.

A multistage probability design is employed. The first stage sample consists of 87 primary sampling units (PSU's) selected from about 1,000 such units, into which the United States has been divided. In each sample PSU, a sample of practicing physicians was selected. The final stage involves selection of a random week of the year, and the selection of samples of patient visits during that week.

For the 1976 survey, 3,022 physicians were selected for the sample, of whom 2,535 were found to be eligible for NAMCS and were asked to participate. A total of 2,004 physicians (79.1 percent of those eligible) participated in the study, providing data concerning a random sample of about 51,000 patient visits.

The estimation procedure used in NAMCS has basically three components: (1) inflation by reciprocals of the probabilities of selection, (2) adjustment of nonresponse, and (3) ratio adjustment to fixed totals.

For more detailed information on the design of NAMCS and the magnitude of sampling errors associated with NAMCS estimates, see: National Center for Health Statistics, The National Ambulatory Medical Care Survey, 1975 Summary, United States, January-December 1975, by H. Koch and T. McLemore, *Vital and Health Statistics*, Series 13–No. 33, DHEW Pub. No. (PHS) 78–1784, Public Health Service, Washington, U.S. Government Printing Office, Jan. 1978.

HEALTH RESOURCES ADMINISTRATION

Bureau of Health Manpower

A. Medical Specialist Supply Projections

In an ongoing effort the Manpower Analysis Branch of the Bureau of Health Manpower evaluates the future supply of health manpower in the various occupations.

The 1974 supply of active physicians (M.D.'s) by specialty was used as the starting point for the projections of active physicians published in 1978. The major source of data used to obtain 1974 figures was the American Medical Association (AMA) Physician Masterfile.

The projections were derived essentially from two distinct estimation matrices. The first matrix produced a "basic" projection of year-by-year future M.D. graduates and separations from the active workforce by country of medical education. Estimates of first-year enrollments, student attrition, other medical school-related trends, and a model of Foreign and Canadian Medical Graduate immigration were used. The second matrix distributed the future graduates and separations by specialty, disaggregated by country of medical education. Projections of first-year residency trends were used, and deaths and retirements of active practitioners were distributed among the specialties proportionate to the supply in each specialty as of 1974. Mortality and retirement losses were computed by 5-year age cohort on an annual basis, using age distributions and mortality and retirement rates from AMA data.

For more information, see: Bureau of

Health Manpower, Supply and Distribution of Physicians and Physician Extenders, *Graduate Medical Education National Advisory Committee Staff Papers,* DHEW Pub. No. (HRA) 78–11, Health Resources Administration, Hyattsville, Md., 1978.

B. Dentistry Survey

The Division of Dentistry, Bureau of Health Manpower under contract with the American Association of Dental Examiners collected data on dentists and dental hygienists acquired from State licensing agencies in 1972–74.

For more information, see: National Center for Health Statistics, Health Resources Statistics, Health Manpower and Health Facilities, 1976–77, to be published, or write to Division of Health Manpower and Facilities Statistics, National Center for Health Statistics, Center Building, 3700 East-West Highway, Hyattsville, Md. 20782.

CENTER FOR DISEASE CONTROL

Bureau of Epidemiology

A. National Morbidity Reporting System

This is a system for collecting demographic, clinical, and laboratory data primarily from State and territorial health agencies to provide national surveillance for conditions such as rabies, aseptic meningitis, diphtheria, tetanus, encephalitis, foodborne outbreaks, and others. Completeness of reporting varies greatly, since not all cases receive medical care and not all treated conditions are reported. Reporting is voluntary.

Estimates of underreporting for two diseases, measles and viral hepatitis, have been made. It is generally accepted that about 10–15 percent of all cases of measles that occur in the United States are reported to CDC. A similar estimate of about 15–20 percent of all cases of viral hepatitis are reported to CDC.

Depending on the disease, data are collected weekly or monthly and are analyzed to detect epidemiologic trends or locate cases requiring control efforts. Data are published weekly and summarized annually. For more information see: Center for Disease Control, Reported morbidity and mortality in the United States, 1976, *Morbidity and Mortality Weekly Report,* 25 (53), August 1977, or write to Center for Disease Control, Chief, National Morbidity and Mortality Statistical Activity, Bureau of Epidemiology, Atlanta, Ga. 30333.

B. Abortion Surveillance

The CDC acquires abortion service statistics by State of occurrence from two sources: (1) central health agencies and (2) hospitals and facilities. Since the initiation of epidemiologic surveillance of abortion in 8 States in 1969, the number of States from which statewide abortion data are reported increased to 38 in 1975. Most of the 38 central health agencies have established direct reporting systems, although a few collected data by surveying abortion facilities. Inquiries by CDC to hospitals and facilities provided information for 13 States which did not collect statewide abortion data.

The total number of abortions reported to CDC is about 15 percent less than the total estimated independently by the Alan Guttmacher Institute, the research and development division of the Planned Parenthood Federation of America, Inc.

For more information, see: Center for Disease Control, *Abortion Surveillance 1976,* DHEW Pub. No. (CDC) 78–8276, Public Health Service, Washington, U.S. Government Printing Office, Apr. 1978, or write to Center for Disease Control, Attn: Director, Family Planning Evaluation Division, Bureau of Epidemiology, Atlanta, Ga. 30333.

Bureau of State Services

A. Venereal Disease

All States require that each case of syphilis and gonorrhea which comes to medical attention be reported to the State or local health

officer. Chancroid, granuloma inguinale, and lymphogranuloma venereum are also reportable in most States. Every 3 months each State submits to the Public Health Service a statistical summary of cases reported during the quarter. All cases not previously reported in the State, regardless of duration of infection or previous treatment status, are counted in the statistical report of cases. Reported morbidity, as reported cases are sometimes called, indicates the result of case-detection activities.

The trend of rates of reported cases of early syphilis over a period of years may indicate incidence trends if no significant changes have occurred in casefinding efforts or completeness of case reporting. Similarly, the trend of reported cases of syphilis in all stages of disease can indicate prevalence trends, subject to the same limitations. Therefore, trends in reported cases and rates must be interpreted with caution, since they reflect not only changes in disease incidence and prevalence but also changes in casefinding efforts and completeness of case reporting.

Cases of primary and secondary syphilis are reportable by law in all 50 States and the District of Columbia, but the reported cases understate actual incidence because: (1) cases occur which are not diagnosed in the primary or secondary stages, and (2) many diagnosed cases are not reported to the health departments. The Venereal Disease Control Division estimates that the actual incidence of syphilis was about 79,000 cases in fiscal year (FY) 1976, of which 24,933 were reported to health departments.

Gonorrhea in general is underreported for the same reasons as syphilis. But for gonorrhea, underreporting occurs much more frequently for women than for men because most infected women exhibit no evidence of infection. The Venereal Disease Control Division estimates that at least 2,700,000 cases of gonorrhea occurred in the United States in FY 1976, of which 1,011,014 were reported to health departments.

Data are published annually in *VD Fact Sheet.* For more information see: Center for Disease Control, *VD Fact Sheet, 1976,* 33rd ed., DHEW Pub. No. (CDC) 77–8195, Public Health Service, Atlanta Ga., or write to Center for Disease Control, Venereal Disease Control Division, Bureau of State Services, Atlanta, Ga. 30333.

B. U.S. Immunization Survey

This survey is the result of a contractual agreement between CDC and the U.S. Bureau of the Census. Estimates from the Immunization Survey are based on data obtained during 1 month of each year in a subsample of households interviewed for the Current Population Survey (CPS), which is separately described in this appendix.

The reporting system contains demographic variables and vaccine history along with disease history when relevant to vaccine history. The system is used to estimate the immunity level of the Nation's child population against the vaccine preventable diseases, and from time–to–time immunity level data on the adult population are collected.

The scope of the U.S. Immunization Survey covers the 50 States and the District of Columbia. In the 1976 subsample, approximately 35,000 occupied households were eligible for interview. Of these, about 1,500 occupied units were visited, but interviews were not obtained because the occupants were not at home after repeated calls or were unavailable for some other reason. In addition to the 35,000 there were also about 6,000 sample units which were visited but were found to be vacant or were occupied by persons ineligible for the survey.

The estimating procedure involves the inflation of weighted sample results to independent estimates of the civilian noninstitutionalized population of the United States by age and race.

For more information see: Center for Disease Control, *United States Immunization Survey, 1976,* DHEW Pub. No. (CDC) 78–8221, Public Health Service, Atlanta, Ga., Nov. 1977.

C. Fluoridation Census

A survey to determine the current population, location, and status of places in the United States using optimally adjusted or naturally occurring fluoridated water was

conducted jointly by the Division of Dentistry, Bureau of Health Manpower, Health Resources Administration, and the Dental Disease Prevention Activity, Bureau of State Services, Center for Disease Control in 1975.

Utilizing existing adjusted and natural community fluoridation census records and additional information forwarded to the Division of Dentistry during the previous 5 years, a master printout was prepared listing the fluoridation status of every place in every county and State in the United States. For each place, data included the status of fluoridation, adjusted or natural; the population receiving fluoridated water; the date on which fluoridation was started; the authority which authorized fluoridation; the dates (if any) flouridation was discontinued and reinstated; and the authority that authorized these actions.

State health departments were sent copies of the listing for their States and were requested to update, change, and verify the data. A request was also made to update the population figures to reflect 1973 estimates. The corrected listings were returned to the Division of Dentistry where the master file was revised.

For more information see: Center for Disease Control, *Fluoridation Census 1975,* DHEW, Public Health Service, Atlanta, Ga., Apr. 1977.

ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION

National Institute of Mental Health

A. Surveys of Mental Health Facilities

The Survey and Reports Branch of the Division of Biometry and Epidemiology conducts several surveys of mental health facilities. Some of the data in this report are derived from more than one of these surveys. Response rate to most of the items on these surveys is relatively high as is the case with data presented in this report, for which the rate is 90 percent or better. However, for some survey items the response rate may be somewhat lower.

The Inventories of Mental Health Facilities are the primary source for NIMH data used in this report. This data system is based on questionnaires mailed to mental health facilities in the United States as of January each year including psychiatric hospitals, non-Federal general hospitals with psychiatric services, residential treatment centers for emotionally disturbed children, federally–funded community mental health centers, freestanding outpatient psychiatric clinics, and other types of multiservice or day/night facilities.

Other surveys conducted by the Survey and Reports Branch encompass sample surveys of patients coming under care in State, county, and private mental hospitals, outpatient psychiatric services, and general hospital inpatient psychiatric units in order to determine the characteristics of patients served by these facilities.

For more information, write to the Survey and Reports Branch, Division of Biometry and Epidemiology, National Institute of Mental Health, 5600 Fishers Lane, Rockville, Md. 20857.

National Institute on Drug Abuse

A. Drug Abuse Warning Network

The Drug Abuse Warning Network (DAWN) is an information system supported jointly by the Drug Enforcement Administration and the National Institute on Drug Abuse. In part, the system collects information on drug-related medical emergencies in 24 standard metropolitan statistical areas (SMSA's) of the country. Data are derived from emergency departments open 24 hours a day located in non-Federal short-term general hospitals, from county medical examiners and county coroners, and from crisis intervention centers. Within 21 of the 24

SMSA's, an attempt is made to enlist all emergency rooms in short-term non-Federal general hospitals into the system. In three SMSA's, because of the large number of qualifying facilities, emergency room coverage is on a sampling basis. A responsible individual on the staff at each facility in the survey is assigned to fill out data forms, which are then sent to DAWN field monitors, who check the incoming data forms.

For more information see: Drug Enforcement Administration, U.S. Department of Justice, and National Institute on Drug Abuse, U.S. Department of Health, Education, and Welfare, Drug Abuse Warning Network, Phase V Report, DEA Contract No. 76–25, May 1976–April 1977, Washington, D.C.

B. Monitoring the Future Project

This project is a series of annual surveys conducted by the Institute for Social Research at the University of Michigan under a research grant from the National Institute on Drug Abuse. Representative samples of high school seniors in the coterminous United States are asked to fill out questionnaires during the spring of each year. The first survey was conducted in 1975.

The procedure for securing a nationwide sample of high school seniors is a multistage one. The first stage is the selection of particular geographic areas. In each area, one or more high schools are selected, and the final stage is the selection of seniors in each high school. The questionnaires are administered in classrooms during normal class periods whenever possible, and require about 45 minutes to complete.

Response rates have varied from 66 to 81 percent for schools initially selected for the survey. For each school refusal, a similar school is recruited as a replacement. Completed questionnaires have been obtained from about three-fourths of all sampled students in participating schools. Most of this nonresponse occurs because of student absenteeism.

For more information on these surveys, see: Johnston, L.D., Bachman, J.G., and O'Malley, P.M., Drug Use Among American High School Students 1975–1977, The Monitoring the Future Project, Institute for Social Research, The University of Michigan, research grant number 3R01 DA 01411–0181, National Institute on Drug Abuse, Rockville, Md., 1977.

NATIONAL INSTITUTES OF HEALTH

National Cancer Institute

A. Surveillance, Epidemiology, and End Results Reporting (SEER) Program

The SEER Program is operated by the Biometry Branch of the National Cancer Institute. It consists of 11 cancer registries covering all diagnosed cancer cases for the entire populations of five States, five metropolitan areas, and the Commonwealth of Puerto Rico. The areas included, which cover approximately 10 percent of the U.S. population, are as follows: Connecticut, Hawaii, Iowa, New Mexico, Utah, Atlanta, Detroit, New Orleans, San Francisco, Seattle, and Puerto Rico. The program, which began in 1973, includes reporting of all newly diagnosed cases of cancer with continuing followup on each case. Thus, the program makes possible the measurement of cancer incidence and patient survival. Mortality data for these areas are obtained from the National Center for Health Statistics. The data for Puerto Rico are not presented in this report. Incidence data for Atlanta are available only for 1976, the year Atlanta entered the program and, hence, are not shown separately but are included in the totals for all areas combined. Survival data are presented only for the five areas in the program in 1973 that had a sufficient number of patients with 3 years of followup information through 1976.

For more information, write to: Biometry Branch, National Cancer Institute, 7910 Woodmont Avenue, Bethesda, Md. 20014.

HEALTH CARE FINANCING ADMINISTRATION

A. Estimates of National Health Expenditures

Estimates of public and private expenditures for health are compiled annually by type of expenditure and source of funds. The data for several Federal health programs are taken from the Office of Management and Budget's special analysis of health programs, while data for the remaining Federal health programs are supplied directly by the various agencies.

Non-Federal expenditures estimates come from an array of sources. American Hospital Association data on hospital finances, increased slightly to allow for osteopathic hospitals, are the primary source for estimates relating to hospital care. Estimated expenditures for the services of dentists and physicians in private practice are based on the gross income from self-employed practice reported to the Internal Revenue Service, while the salaries of dentists and physicians on the staffs of hospitals and hospital outpatient facilities are considered a component of hospital care. Expenditures for the education and training of medical personnel are considered to be expenditures for education, and where they can be separated, they are excluded from health expenditures. Expenditures for drugs, drug sundries, eyeglasses, and appliances exclude those provided to inpatients and are estimated principally from the report of personal consumption expenditures in the Department of Commerce's national income accounts in the *Survey of Current Business.* Nursing home care expenditures by both public and private sources are based on data from the National Nursing Home Survey conducted by the National Center for Health Statistics. Data on the financial experience of health insurance organizations come from special Social Security Administration analyses of private health insurers. Expenditures for construction represent "value put in place" for hospitals, nursing homes, medical clinics, and medical research facilities but not for private office buildings providing office space for private practitioners.

For more specific information on items included and excluded and on general methodology used, see: Gibson, R.M. and Fisher, C.R., National health expenditures, fiscal year 1977, *Social Security Bulletin,* 41 (7):3–20, July 1978.

SOCIAL SECURITY ADMINISTRATION

A. Mortality and Life Expectancy Projections

The Office of the Actuary of the Social Security Administration prepared projections of population for cost estimates of the Old-Age Survivors, Disability, and Hospital Insurance (OASDHI) system. To accomplish this it was necessary to project future mortality. Values of expectations of life were also calculated, based on the mortality projections.

The basic mortality projection procedure involved estimating ultimate mortality rates for the year 2050 based on rates experienced at the beginning of the period, 1976. The 1976 rates were estimated, using 1974 data from the vital registration system of NCHS, since final 1976 mortality data were not available at the time the projections were prepared.

Percentage changes in mortality, based on analysis of death rates by age and sex for 10 broad groups of causes of death for 1974 and earlier years, were applied to the estimated 1976 death rates to obtain the postulated death rates for the year 2050, by cause, age, and sex. Summing the rates for all causes within each age-sex category provided the ultimate mortality rates for 2050.

The rates for years between 1976 and 2050 were calculated by geometric interpolation. For more information see: Office of the Actuary, United States population projections for OASDHI cost estimates, by F.R. Bayo, H.W. Shiman, and B.R. Sobus, *Actuarial Study No. 76,* DHEW Pub. No. (SSA) 77–11522, Social Security Administration, Baltimore, Md., June 1977.

DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS

A. The U.S. Census of Population

The census of population has been taken in the United States every 10 years since 1790. Beginning in 1985, however, the census will be on a quinquennial basis. In the 1970 census basic demographic data such as sex, race, age, marital status, etc. were obtained from 100 percent of the enumerated population. In addition, information such as educational attainment, occupational status, and earnings were obtained for a 20 percent sample. More detailed data on previous residence, veteran status, place of work, country of birth of parents, etc. were collected from a 15 percent sample; a 5 percent sample was asked about disability status, citizenship, length of marriage, vocational training, etc. Americans living overseas received a supplemental schedule.

Detailed national data are tabulated and published as are data for areas as small as census tracts.

For information on undercoverage see: U.S. Bureau of the Census, *Estimates of Coverage of the Population by Sex, Race, and Age: Demographic Analysis* PHC(E)–4; for tables of sampling errors for sampled data see *Census of Population 1970,* PC(1)–C, General Social and Economic Characteristics, Appendix C.

B. Current Population Survey

The Current Population Survey (CPS) is a household sample survey of the civilian noninstitutionalized population conducted monthly by the U.S. Bureau of the Census to provide estimates of employment, unemployment, and other characteristics of the general labor force, of the population as a whole, and of various other subgroups of the population.

A list of housing units from the 1970 census, supplemented by newly constructed units and households known to be missed in the 1970 census, provides the sampling frame in most areas for the present CPS. In some rural locations current household listings of selected land areas serve as the frame.

The present CPS sample is located in 461 areas comprising 923 counties and independent cities with coverage in every State and the District of Columbia. In an average month during 1975, the number of housing units or living quarters designated for the national sample was about 58,000, of which about 3,000 were found to be nonexistent, demolished, or no longer used as living quarters. Of the remaining 55,000 units assigned for interview, about 45,000 were interviewed households, 2,000 were households at which the members were not available for interview, and 8,000 were found to be vacant, occupied by persons with usual residence elsewhere, or otherwise not eligible for interview.

The estimation procedure involves inflation by reciprocals of the probabilities of selection, adjustment for nonresponse, and ratio adjustment.

For more information see: U.S. Bureau of the Census, *The Current Population Survey, Design and Methodology,* Technical Paper 40, Washington, U.S. Government Printing Office, Jan. 1978.

C. Population Estimates and Projections

National estimates are derived by use of decennial census data as benchmarks and of data available from various agencies as follows: births and deaths (Public Health Service); immigrants (Immigration and Naturalization Service); the Armed Forces (Department of Defense); net movement between Puerto Rico and the U.S. mainland (Puerto Rico Planning Board); and Federal employees abroad (Civil Service Commission and Department of Defense). State estimates are based on similar data and also on a variety of data series, including school statistics from State departments of education and parochial school systems.

National population projections indicate the approximate future level and characteristics of the population under given assumptions as to future fertility, mortality, and net immigration. The method used to develop the projections involved preparation of projections of each of the components of population change—births, deaths, and net immigration—and the combination of these with July 1 estimates of the current population. Projections for States and metropolitan areas incorporate further assumptions about population redistribution through interarea migration.

Current estimates and projections are generally consistent with official decennial census figures and do not reflect the amount of estimated decennial census underenumeration.

For more information see: U.S. Bureau of the Census, Projections of the population of the United States, 1977 to 2050, *Current Population Reports,* Series P–25, No. 704, U.S. Government Printing Office, Washington, July 1977.

D. Survey of Institutionalized Persons

The U.S. Bureau of the Census conducted a Survey of Institutionalized Persons (SIP) in early 1976 under the sponsorship of the U.S. Department of Health, Education, and Welfare. The survey was designed to obtain information about the services and resources of long-term care facilities. Information was also collected on the type of care provided to residents, the sources of financing for this care, and possible alternatives for a patient's care.

The SIP was a sample survey and initially included 928 institutions selected from the 1973 Master Facility Inventory (MFI) file. The MFI, conducted by NCHS, is separately described in this appendix. The universe included nursing homes, institutions for the mentally retarded, homes for dependent children, homes or resident schools for the emotionally disturbed, homes for alcoholics and/or drug abusers, homes for unwed mothers, resident facilities for the deaf and/or blind, resident facilities for the physically handicapped, and other inpatient health facilities. Excluded from the survey were long-stay hospitals and penal and/or juvenile detention facilities. Since the sample was drawn from the 1973 MFI, facilities which were newly opened between 1973 and 1976 were not included in SIP. Thus, there was slight undercoverage.

The SIP sample was stratified by size and type of facility. Within each sample institution, the administrator, staff members, and a sample of residents were interviewed, and administrative records were consulted. A sample of residents' families was also selected for interview.

For more information on SIP see: U.S. Bureau of the Census, 1976 Survey of Institutionalized Persons, a study of persons receiving long-term care, *Current Population Reports,* Series P–23–No. 69, Washington, U.S. Government Printing Office, June 1978.

DEPARTMENT OF LABOR

BUREAU OF LABOR STATISTICS

A. Consumer Price Index

The Consumer Price Index (CPI) is a monthly measure of price change for a fixed market basket of goods and services. It is revised periodically to take account of changes in what Americans buy and in the way they live. The latest revision introduced (1) a new CPI for all Urban Consumers and (2) a revision of the CPI for Urban Wage Earners and Clerical Workers. The new indices were introduced with the release of January 1978 data. To make the transition less difficult, the unrevised CPI for Urban Wage Earners and Clerical Workers was published for 6 months after the revision.

In this report, all CPI data shown are the unrevised CPI for Urban Wage Earners and Clerical Workers. Prices for 400 items were obtained in urban portions of 39 major statistical areas and 17 smaller cities which were chosen to represent all urban places in the United States. They were collected from about 18,000 establishments—grocery and department stores, hospitals, filling stations, and other types of stores and service establishments.

Prices of food, fuels, and a few other items were obtained every month in all 56 locations. Prices of most other commodities and services were collected every month in the five largest areas and every 3 months in other areas. Prices of most goods and services were obtained by personal visits of the Bureau's trained representatives. Mail questionnaires were used to obtain local transit fares, public utility rates, newspaper prices, fuel prices, and certain other items.

In calculating the index, price changes for the various items in each location were averaged together with weights which represent their importance in the spending of all wage earners and clerical workers. Local data were then combined to obtain a U.S. city average. Separate indexes were also published for 23 areas.

The index measures price changes from a designated reference date—1967—which equals 100.0. An increase of 22 percent, for example, is shown as 122.0. This change can also be expressed in dollars as follows: The price of a base period "market basket" of goods and services bought by urban wage earners and clerical workers has risen from $10 in 1967 to $12.20.

For more information see: Bureau of Labor Statistics, *Consumer Price Index: Concepts and Content over the Years,* BLS Report 517, Washington, U.S. Government Printing Office, May 1978.

B. Employment and Earnings

The Division of Industry Employment Statistics and the Division of Employment and Unemployment Analysis of the Bureau of Labor Statistics (BLS) publish data on employment and earnings. The data are collected by the U.S. Bureau of the Census, State Employment Security Agencies, and State Departments of Labor in cooperation with BLS.

The major data source is the Current Population Survey (CPS), a household interview survey conducted monthly by the U.S.

Bureau of the Census to collect labor force data for BLS. The CPS is separately described in this appendix.

Data based on establishment records are also compiled each month from mail questionnaires by BLS, in cooperation with State agencies.

For more information see: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings, January 1978,* Vol. 25, No. 1, Washington, U.S. Government Printing Office, Jan. 1978.

C. Hospital Industry Wage Survey

This survey has been conducted by the Bureau of Labor Statistics every 3 years since the early 1960's. The latest survey was conducted from August 1975 to January 1976.

The most recent survey included proprietary and nonprofit hospitals, and State and local (e.g. municipal, county, hospital district) government hospitals in 23 standard metropolitan statistical areas. Excluded from the survey were Federal Government hospitals, sanitoria, rest homes, convalescent homes or curative baths, spas, and other institutions which do not admit persons for the express purpose of providing medical, psychiatric, or surgical care. A hospital, for the purposes of this study, is defined as a single physical location where medical, psychiatric, or surgical services are provided. Short-term hospitals are those in which patients stay an average of less than 30 days.

Hospitals studied were selected from those employing 100 workers or more at the time of reference of the universe data. The universe was prepared from the 1973 Master Facility Inventory maintained by the National Center for Health Statistics.

Data on hospital industry characteristics, occupational earnings, hours, and fringe benefits were obtained by personal visits of the Bureau's field staff to a representative sample of hospitals within the scope of the survey.

The occupations selected for study were in two major employment categories—professional and nonprofessional. "Professional/technical workers" or "professional workers" include physicians, registered professional nurses, and other professional/technical employees such as dietitians, therapists, licensed practical nurses, medical and radiologic technologists, and medical record administrators. "Nonprofessional workers" include office clerical and other nonprofessional employees. Other nonprofessional employees include nursing aids, orderlies, cleaners, kitchen help, housekeepers, and unskilled laboratory help (including bottle washers) and maintenance employees. Members of religious orders were excluded. Regularly employed part-time workers were included in the selected occupations and wage data are presented separately for such workers.

Information on wages relates to straight-time hourly earnings, excluding premium pay for overtime and for work on weekends, holidays, and late or other shifts. The value of room, board, or other perquisites provided in addition to cash payments were also excluded. Cost-of-living bonuses were included as part of the worker's regular pay, but payments such as Christmas or year-end bonuses were excluded.

Average (mean) hourly rates or earnings for each occupation were calculated by weighting each rate (or hourly earnings) by the number of employees receiving the rate, totaling, and dividing by the number of individuals. The hourly earnings of salaried workers were obtained by dividing their straight-time salary by normal (or standard) rather than actual hours to which the salary corresponds.

For more information see: Bureau of Labor Statistics, U.S. Department of Labor, *Industry Wage Survey, Hospitals, August 1975–January 1976,* Bulletin 1949, Washington, U.S. Government Printing Office, 1977, or write to U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C. 20212.

ENVIRONMENTAL PROTECTION AGENCY

A. National Aerometric Surveillance Network

The Environmental Protection Agency (EPA), through extensive monitoring of activities conducted by Federal, State, and local air pollution control agencies, collects data on the five pollutants for which National Ambient Air Quality Standards have been set. These pollution control agencies submit data quarterly to EPA's National Aerometric Data Bank (NADB). There are about 3,400 total stations reporting. Data from some short-term or sporadic monitoring for such purposes as special studies and complaint investigations are usually not included in the NADB because the data are not extensive enough to provide equitable comparisons with routine data from permanent monitoring sites. For more information see: Environmental Protection Agency, *National Air Quality and Emissions Trends Report, 1976,* EPA–450/1–77–002, Research Triangle Park, N.C., Dec., 1977, or write to the Air Pollution Technical Information Center, Environmental Protection Agency, Research Triangle Park, N.C. 27711.

CONSUMER PRODUCT SAFETY COMMISSION

A. National Electronic Injury Surveillance System

This system collects data from a probability sample of 119 hospital emergency rooms selected by the Consumer Product Safety Commission (CPSC) from over 5,000 such facilities in the United States. Trained workers abstract data from the emergency room records of all patients admitted each day whose injuries involve consumer products. The information is transmitted daily to the Consumer Product Safety Commission. In fiscal year 1976 the National Electronic Injury Surveillance System (NEISS) collected and stored surveillance data on about 400,000 cases. Although NEISS collects data on all consumer products, CPSC publications do not include data for certain products such as motor vehicles, food, drugs, firearms, and other products which are under the jurisdiction of other Federal agencies.

For further information on the NEISS see: U.S. Consumer Product Safety Commission, *Annual Report, Fiscal Year 1976,* Washington, U.S. Government Printing Office, Oct. 1976, or call the toll free Consumer Hotline at 800–638–2666.

UNITED NATIONS

A. Demographic Yearbook

The Statistical Office of the United Nations prepares the *Demographic Yearbook,* a comprehensive collection of international demographic statistics.

Questionnaires are sent annually and monthly to more than 220 national statistical services and other appropriate government offices. Data forwarded on these questionnaires are supplemented, to the extent possible, by data taken from official national publications and by correspondence with the national statistical services. To ensure comparability, rates, ratios, and percentages have been calculated in the Statistical Office of the United Nations.

Lack of international comparability between estimates arises from differences in concepts, definitions, and time of data collection. The comparability of population data is affected by several factors, including (1) the definitions of the total population, (2) the definitions used to classify the population into its urban/rural components, (3) difficulties relating to age reporting, (4) the extent of over- or under-enumeration, and (5) the quality of population estimates. The completeness and accuracy of vital statistics data also vary from one country to another. Differences in statistical definitions of vital events may also influence comparability.

For more information see: United Nations, *Demographic Yearbook 1976,* Pub. No. ST/ESA/STAT/STR.R/4, United Nations, New York, 1977.

WORLD HEALTH ORGANIZATION

A. World Health Statistics Annual

The World Health Organization (WHO) is one of the specialized agencies of the United Nations. WHO publishes the *World Health Statistics Annual* each year. This publication is the result of a joint effort by the national health and statistical administrations of many countries, the Statistical Office of the United Nations, and the World Health Organization. It is published in three volumes: Volume I—Vital Statistics and Causes of Death; Volume II—Infectious Diseases: Cases and Deaths; Volume III—Health Personnel and Hospital Establishments.

Data in the *World Health Statistics Annual* are provided by national administrators in answer to questionnaires or obtained from annual national publications. Some of the data are reprinted from the *Demographic Yearbook.*

In many cases, complete comparability of data between countries is not possible. Differences in the definition of a hospital may occur. The level of general education and professional training of health personnel may vary from country to country. Completeness of coverage also varies. Noncomparability of diagnostic coding of data can also occur.

For more information see: World Health Organization, *World Health Statistics Annual, 1977,* Vols. I, II, III, Geneva, Switzerland, World Health Organization, 1977.

AMERICAN MEDICAL ASSOCIATION

A. Physician Masterfile

A masterfile of physicians has been maintained by the American Medical Association (AMA) since 1906. Today, the masterfile contains data on almost every physician in the United States, both members and nonmembers of AMA, and on those graduates of American medical schools temporarily practicing overseas. The file also includes graduates of foreign medical schools who are in the United States.

A file is initiated on each individual upon entry into medical school or, in the case of foreign graduates, upon entry into the United States. A census of physicians is conducted every 3 years to update the file information on professional activities, specialization, and present employment status. The last census from which data are available was conducted in 1973. Between censuses, AMA keeps the file current by continuous checks of professional publications and State licensure notices for changes in any physician's activities. When a change is noted, the physician is sent another copy of the questionnaire. In 1975, approximately 3,500 of these questionnaires were mailed per week. The general response rate to the questionnaires is about 87 percent.

For more information on the AMA Physician Masterfile see: Goodman, L.J.: *Physician Distribution and Medical Licensure in the U.S., 1976,* Chicago, American Medical Association, 1977.

B. Surveys of Medical Groups

The American Medical Association (AMA) Center for Health Services Research and Development conducted surveys of group medical practice in 1965, 1969, and 1975.

In the 1975 survey, questionnaires were mailed to all 13,169 known or potential groups in the U.S. and its territories in December 1974. Information was solicited in several areas of concern, including the age of groups, specialty composition, form of organization, administration and management, income distribution, facilities and services provided, prepayment activity, and allied health manpower employed. Fifty-three percent of the groups responded to the first mailing. Several followup mailings, personal letters, and telephone calls raised the response rate to 96 percent.

Of the 13,169 questionnaires mailed, 1,889 were not usable because they were from groups no longer in existence or dissolved or from groups listed in AMA records under more than one name. Another 2,269 were eliminated because they did not meet the AMA definition of group practice. This resulted in a usable response of 8,483 groups, 22 of which were in Puerto Rico and other U.S. possessions.

For more information see: Goodman, L.J., Bennette, E.H., and Odem, R.J., *Group Medical Practice in the U.S., 1975,* Chicago, American Medical Association, 1977.

C. Annual Census of Hospitals

From 1920 to 1953, the Council on Medical Education and Hospitals of the American Medical Association (AMA) conducted annual censuses of all hospitals registered by AMA.

In each annual census questionnaires were sent to hospitals asking for the number of beds, bassinets, births, patients admitted, average census of patients, lists of staff doctors and interns, and other information of importance at the particular time. Response rates were always nearly 100 percent.

Community hospital data from 1940 and 1950 which are presented in this report were calculated using published figures from the AMA Annual Census of Hospitals. Although the hospital classification scheme used by AMA in published reports is not strictly comparable with the definition of community hospitals, methods were employed to achieve the greatest comparability possible.

For more information on the AMA Annual Census of Hospitals see: American Medical Association, Hospital Service in the United States, *JAMA* 116(11):1055–1144, 1940.

D. Periodic Survey of Physicians

The Periodic Survey of Physicians is a sample survey of non-Federal, office-based, patient-care physicians in the United States. Questionnaires are sent to a random sample of physicians to obtain information on work patterns of physicians, fees for selected services, physicians' professional expenses and net incomes, and utilization of allied health personnel in medical practices.

The tenth Periodic Survey of Physicians was conducted from October 1975 to February 1976. Questionnaires were mailed to 11,121 physicians. The response rate was about 50 percent.

For more information see: American Medical Association, *Profiles of Medical Practice, 1977,* Chicago, 1976 or write to: American Medical Association Center for Health Services Research and Development, 535 N. Dearborn Street, Chicago, Ill. 60610.

AMERICAN HOSPITAL ASSOCIATION

A. Annual Survey of Hospitals

Data from this survey are based on questionnaires that are sent to all hospitals in the United States and its associated areas accepted for registration by the American Hospital Association (AHA). In 1976, questionnaires were mailed to 7,158 registered hospitals. Of these, 7,082 hospitals were located in the 50 States and the District of Columbia, and 76 were located in the U.S. possessions. Overall, 6,552 hospitals reported data, a response rate of 91.5 percent. For nonreporting hospitals and for the survey questionnaires of reporting hospitals on which some information was missing, estimates were made for all data except those on bassinets and facilities. The estimates of the missing data were based on data furnished by reporting hospitals that were similar in terms of bed-size category, type of control, major type of service provided, and type of stay to the hospitals whose data were not reported.

Hospitals are requested to report data for the full year ending September 30. Slightly more than half of the responding hospitals used this reporting period in the 1976 survey. The remaining hospitals used various reporting periods.

For more information on the AHA Annual Survey of Hospitals see: American Hospital Association, *Hospital Statistics, 1977 Edition, Data from the American Hospital Association 1976 Annual Survey,* Chicago, 1977.

AMERICAN NURSES' ASSOCIATION

A. Inventories of Nurses

Since 1949, the American Nurses' Association (ANA) has periodically conducted national inventories of registered nurses and licensed practical nurses. The most recent surveys were conducted in 1972 for registered nurses and in 1974 for licensed practical nurses.

To collect data on nurse manpower, ANA employed the procedures used by State boards of nursing for licensure renewals. Questionnaires were included with license renewal applications sent to nurses. Since few States have the same license renewal date, the data do not describe a single point in time. Cutoff dates, generally 1 month after the license expiration date, were assigned in each State. When its cutoff date was reached, each State Board of Nursing packaged the questionnaires and sent them to ANA for central processing.

Since nurses can be licensed in more than one State, unduplication procedures were performed to avoid overestimating the actual nurse supply.

There are some limitations which prevent these studies from being considered true "censuses" of nurses. The use of cufoff dates may tend to exclude some persons who should be included. In some States, questionnaires were mailed separately from license applications, and the response rates were less than 100 percent for these States. Response rates also varied from question to question. Adjustments for nonresponse were made to the number of employed nurses.

For more information on these surveys see: Roth, A.V. and Walden, A.R., *The Nation's Nurses: 1972 Inventory of Registered Nurses,* Kansas City, American Nurses' Association, 1974; and Roth, A.V. and Schmitting, G.T., *LPNS: 1974 Inventory of Licensed Practical Nurses,* Kansas City, American Nurses' Association, 1977.

OFFICE OF POPULATION RESEARCH

A. National Fertility Studies

The Office of Population Research at Princeton University sponsored two National Fertility Studies in 1965 and 1970. Both were similar in design to Cycle I of the National Survey of Family Growth conducted by the National Center for Health Statistics.

The target population for the 1965 survey consisted of currently married women born since July 1, 1910 who were living with their husbands and residing in the coterminous United States. A random sample of 5,617 women were interviewed, for a response rate of 88 percent. Of the 12 percent not interviewed about two-thirds were refusals. The contraceptive data from this survey shown in this report are based on 4,810 of the 5,617 completed interviews.

The population covered by the sample in 1970 was ever-married women 15–44 years of age who were not living on military bases. Interviews were completed for 6,752 women, for a response rate of 80 percent. The data from the 1970 survey shown in this report are based on 5,884 of the completed interviews.

Nonresponse adjustments were not made in either the 1965 or 1970 surveys.

For more information on the 1965 National Fertility Study see: N.B. Ryder and C.F. Westoff, *Reproduction in the United States,* Princeton University Press, 1971. For more information on the 1970 National Fertility Study see: C.F. Westoff and N.B. Ryder, *The Contraceptive Revolution,* Princeton University Press, 1977.

POPULATION COUNCIL

A. Induced Abortion Data

The Population Council, in its *Reports on Population/Family Planning,* has published international data on induced abortion.

Most of the data are based on official statistics of legal abortions from countries where liberalized abortion laws have been enacted at various times since the 1930's. Most of these laws provide for the reporting to health authorities of all abortions performed under the provisions of the law. The completeness and accuracy of the reporting vary among countries.

Where necessary and possible, the official statistics were supplemented with data collected by voluntary organizations.

For more information see: Population Council, induced abortion, 1975 factbook, by C. Tietze and M. Cooper Murstein, *Reports on Population/Family Planning,* No. 14, 2nd ed., Population Council, Inc., New York, Dec. 1975.

APPENDIX II

Glossary of Terms

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APPENDIX II

Glossary of Terms

GENERAL TERMS

Social and Demographic Terms

Age.—Age is reported as age at last birthday, i.e., age in completed years, often calculated by subtracting date of birth from the reference date, with the reference date being the date of the examination, interview, or other contact with an individual.

Age adjustment of death rates.—Age adjustment, using the direct method, is the application of the age-specific death rates in a population of interest to a standardized age distribution in order to eliminate the differences in observed rates due to age differences in population composition. This is usually done when comparing two or more populations at one point in time or one population at two or more points in time.

Average annual rate of change (percent change).—Two types of rates of change are used in this report, geometric and exponential. A *geometric rate of change* is one in which a variable increases or decreases at the same rate over each year. This method of computing the average annual rate of change is used in Part B Section I, A and C, Section III, A, and Section IV. An *exponential rate of change* is one in which a variable increases or decreases continuously over the time interval. This method of computing the average annual rate of change is used in Part B Section III, B.

Color and race.—The Federal Government's data systems often classify individuals into two color groups ("white" and "all other") or three racial groups ("white," "black," and "other races"). Generally, "other races" includes American Indian, Chinese, Japanese, and others, while "white" includes Mexican and Cuban. Beginning in 1976, Federal data collections specify ethnic origin, including Spanish heritage.

Depending on the data source, the classification by color and race may be based on self-classification or an observation by an interviewer or other persons filling out the questionnaire. In the national vital registration system, newborn infants are assigned the race of their parents; if the parents are of different races and one is white, the child is assigned the other parent's race; if either parent is Hawaiian, the child is classified as Hawaiian; and in all other cases, the child is assigned the father's race. Prior to 1964, the national vital registration system classified all births for which race was unknown as "white." The Health Interview Survey assigns the race of the father to children whose parents are of different races.

Currently employed.—In the Health Interview Survey, currently employed people are those 17 years of age and over who report that they either work at or have a job or business. Current employment includes paid

work as an employee of someone else, self-employment in a business, farming, or professional practice, as well as unpaid work in a family business or farm. People temporarily absent from a job or business because of temporary illness, vacation, strike, personal reasons, or bad weather are considered currently employed. (Free-lance workers also are considered currently employed if they have a definite arrangement with one employer or more to work for pay according to a weekly or monthly schedule, either full time or part time.)

Excluded from the currently employed population are: (1) people receiving revenue from an enterprise but not participating in its operation, (2) people doing housework or charity work for which they receive no pay, (3) seasonal workers during the portion of the year they are not working, and (4) people laid off or looking for work. These numbers of currently employed people differ from those prepared by the U.S. Bureau of the Census. For official estimates of the currently employed population, see the U.S. Bureau of Labor Statistics monthly report, *Employment and Earnings.*

Family income.—For purposes of the Health Interview Survey and Health and Nutrition Examination Survey, all people within a household related to each other by blood, marriage, or adoption constitute a family. Family income, then, is the total income received by the members of a family in the previous 12 months, including wages, salaries, rents from property, interest, dividends, profits and fees from their own business, pensions, and help from relatives.

Marital status.—The population is classified through self-reporting into the categories married and unmarried. Married includes all married people not separated from their spouses. Unmarried includes those who are single (never married), divorced, or widowed. In the U.S. Bureau of the Census, separated people count as married, while for the national vital registration system they are classified as unmarried. The Abortion Surveillance reports of the Center for Disease Control classify separated people as unmarried for all States except Rhode Island.

Population.—The U.S. Bureau of the Census collects and publishes data on several different types of population in the United States. Various statistical systems then use the appropriate population in calculating rates.

Total population is the population of the United States including all members of the Armed Forces living in foreign countries, Puerto Rico, Guam, and the U.S. Virgin Islands. Other Americans abroad (e.g., civilian Federal employees and dependents of members of the Armed Forces or other Federal employees) are not included.

Resident population is the population living in the United States. This includes members of the Armed Forces stationed in the United States and their families as well as foreigners working or studying here; it excludes foreign military, naval, and diplomatic personnel and their families located here and residing in embassies or similar quarters as well as Americans living abroad. The resident population is often the denominator when calculating birth and death rates and incidence of disease.

Civilian population is the resident population excluding members of the Armed Forces. Families of members of the Armed Forces are included, however.

Civilian noninstitutionalized population is the civilian population not residing in institutions. Institutions include correctional institutions, detention homes, and training schools for juvenile delinquents; homes for the aged and dependent (e.g., nursing homes and convalescent homes); homes for dependent and neglected children; homes and schools for the mentally or physically handicapped; homes for unwed mothers; and psychiatric, tuberculosis, and chronic disease hospitals and residential treatment centers. This population is the denominator in rates calculated for the National Center for Health Statistics' Health Interview Survey and Health and Nutrition Examination Survey.

Institutionalized population is the populating residing in institutions. The Survey

of Institutionalized Persons includes residents of nursing homes, psychiatric facilities, children's facilities, facilities for the physically handicapped or mentally handicapped, and other health facilities included in the Master Facility Inventory, but excludes all residents of hospitals as well as residents of detention or custodial facilities for juvenile delinquents.

Poverty level.—As used in the 1971–74 Health and Nutrition Examination Survey, the poverty level threshold values are values that are shown in the U.S. Bureau of the Census publication, *Current Population Reports*, Series P–60, No. 86 (December 1972), and that are derived from a poverty level index, defined by the Social Security Administration in 1964. These values consider the costs of necessary nutrition for families based on such factors as family size and composition, age and sex of the family head, and farm or nonfarm residence.

Geographic Terms

Division and region.—The 50 States and the District of Columbia have been grouped for statistical purposes by the U.S. Bureau of the Census into nine divisions within four regions. The groupings are as follows:

NORTHEAST
- New England
  - Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut
- Middle Atlantic
  - New York, New Jersey, Pennsylvania

NORTH CENTRAL
- East North Central
  - Michigan, Wisconsin, Ohio, Indiana, Illinois
- West North Central
  - Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas

SOUTH
- South Atlantic
  - Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida
- East South Central
  - Kentucky, Tennessee, Alabama, Mississippi
- West South Central
  - Arkansas, Louisiana, Oklahoma, Texas

WEST
- Mountain
  - Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada
- Pacific
  - Washington, Oregon, California, Alaska, Hawaii

Location of residence, hospital, etc.—A system set up by the U.S. Department of Agriculture classifies metropolitan counties according to the size of the metropolitan area of which they are a part and nonmetropolitan counties according to their number of urban residents and proximity to a metropolitan area. The coding, as applied to data in this report, uses the 1973 county designations prepared by the U.S. Office of Management and Budget which classified counties according to their size and other characteristics as reported in 1970.

The county classifications are as follows:

I. *Inside SMSA.*—metropolitan counties (see "Standard metropolitan statistical area")
   1. *Large SMSA* refers to a county with an SMSA of at least 1 million population.
      A. *Core* refers to counties containing the primary central city of an SMSA.
      B. *Fringe* refers to suburban counties of an SMSA.
   2. *Medium SMSA* refers to a county within an SMSA of 250,000 to 999,999 population.
   3. *Other SMSA* refers to a county within an SMSA of less than 250,000 population.

II. *Outside SMSA.*—nonmetropolitan counties
   1. *Adjacent to SMSA* refers to a county contiguous to an SMSA.
      A. *Urbanized* refers to a county contiguous to an SMSA and having an aggregate urban population of at least 20,000.

B. *Less urbanized* refers to a county contiguous to an SMSA and having an aggregate urban population of 2,500 to 19,999.
C. *Thinly populated* refers to a county contiguous to an SMSA and having no urban population.

2. *Not adjacent to SMSA* refers to a county not contiguous to an SMSA.
   A. *Urbanized* refers to a county not contiguous to an SMSA and having an aggregate urban population of at least 20,000.
   B. *Less urbanized* refers to a county not contiguous to an SMSA and having an aggregate urban population of 2,500 to 19,999.
   C. *Thinly populated* refers to a county not contiguous to an SMSA and having no urban population.

Metropolitan.—Any county within a standard metropolitan statistical area is metropolitan. Other counties are *nonmetropolitan.*

Registration area.—The United States has separate registration areas for birth, death, marriage, and divorce statistics which collect data annually from States whose registration data are at least 90 percent complete.

The *death-registration area* was established in 1900 with 10 States and the District of Columbia, while the *birth-registration area* was established in 1915, also with 10 States and the District of Columbia. Both areas have covered the entire United States since 1933. Currently, Puerto Rico, the U.S. Virgin Islands, and Guam are also included, although in statistical tabulations they are not part of the "United States" total.

Reporting area.—In the national vital registration system, reporting requirements on birth certificates vary according to State. Thus, different numbers of States report various characteristics. For example, births to unmarried women are reported on the birth certificate only in 38 States and the District of Columbia, and the month during which prenatal care began is reported in 44 States and the District of Columbia.

Standard metropolitan statistical area (SMSA).—This is a concept developed for use in statistical reporting and analysis. Except in the New England States, an SMSA is a county or a group of contiguous counties containing at least one city of 50,000 inhabitants or more or "twin cities" with a combined population of at least 50,000. In addition, contiguous counties are included in an SMSA if they are essentially metropolitan in character (based on criteria of labor force characteristics and population density) and are socially and economically integrated with the central city or cities.

In New England, towns and cities rather than counties are the geographic components of the SMSA. Since National Center for Health Statistics (NCHS) data are not coded to identify all towns, NCHS uses the metropolitan State economic area (MSEA), which is made up of county units, for reporting data in New England.

HEALTH STATUS AND DETERMINANTS

Fertility

Abortion.—The Center for Disease Control's surveillance program counts *legal abortions* only. What constitutes a legal abortion varies, depending on a State's regulations about when one may be performed. Similarly, for the international counts of legal abortions, each country's regulations determine what constitutes a legal abortion.

Birth rate.—This measure divides the number of live births in a population in a given period by the resident population at the middle of that period. The rate may be restricted to births to women of specific age, race, marital status, or geographic location, or it may be related to the entire population.

Children ever born.—The U.S. Bureau of the Census counts the number of children born to women who have ever been married. The question used to derive these data is phrased so as to omit stillbirths, stepchildren, and adopted children but to include children born before the present marriage, ones no longer living, and children living away from home.

Contraceptive use.—In studies of family planning, women are classified according to their use or nonuse of contraception. Nonusers are women who are currently pregnant, post partum, or sterile for reasons other than limitation of family size and those not using contraception for other reasons. Users are classified according to the specific method they use: sterilization, the oral contraceptive pill, intrauterine device (IUD), diaphragm, etc.

Gestation.—For both the national vital registration system and the Center for Disease Control's Abortion Surveillance, the period of gestation is defined as beginning with the first day of the last normal menstrual period and ending with the day of birth.

Limetime births expected.—This is the total number of births a woman expects during her lifetime, measured by the U.S. Bureau of the Census as the sum of children ever born and additional births expected.

Live birth.—In the World Health Organization's definition, also adopted by the United Nations and the National Center for Health Statistics, a live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life such as heartbeat, umbilical cord pulsation, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered live born.

Live birth order.—In the national vital registration system, this item from the birth certificate indicates the number of live births a woman has had, counting the birth being recorded.

Mortality

Cause of death.—For the purpose of national mortality statistics, every death is attributed to one underlying cause as reported on the death certificate. For data years 1968 to 1978 the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States* is being used for coding. Earlier data used

the then current revision of the International Classification of Diseases. Starting in 1979 the Ninth Revision will be used.

Death rate.—This measure divides the number of deaths in a population in a given period by the population at the middle of that period. It may be restricted to deaths in specific age, race, sex, or geographic groups, or it may be related to the entire population.

Eighth Revision International Classification of Diseases, Adapted for Use in the United States (ICDA).—The ICDA and the *International Classification of Diseases* (ICD), upon which the ICDA is based, classify morbidity and mortality information for statistical purposes. Both are arranged in 17 main sections. Most of the diseases are arranged according to their principal anatomical site, with special sections for infective and parasitic diseases; neoplasms; endocrine, metabolic, and nutritional diseases; mental diseases; complications of pregnancy and childbirth; certain diseases peculiar to the perinatal period; and ill-defined conditions. Separate sections provide a classification of injuries according to the external cause giving rise to the injury, usually used for cause-of-death categories, and a classification according to the nature of injury (such as puncture, open wound, or burn), usually used for morbidity categories. Supplementary sections in the ICDA on special conditions and examinations without sickness (Y00-Y13) and on surgical operations and diagnostic and other therapeutic procedures are used for coding information on ambulatory and inpatient utilization.

The ICD was first used in 1900 and has been revised about every 10 years since then. The Ninth Revision, introduced in 1977, will be used to code U.S. mortality data beginning with 1979. A modification of the Ninth Revision is being prepared for use with U.S. morbidity data.

Infant mortality.—Infant mortality is the death of live-born children who have not reached their first birthday and is usually expressed as a rate (i.e., the number of infant deaths during a reporting period per 1,000 live births reported in the same period).

Life expectancy.—Life expectancy is the average number of years of life remaining to a person at a particular age and is based on a given set of age-specific death rates, generally the mortality conditions existing in the period mentioned. Life expectancy may be determined by race, sex, or other characteristics using age-specific death rates for the population with that characteristic.

Relative survival rate.—This is the ratio of the observed survival rate for the patient group (from the time of diagnosis) to the rate for people in the general population (as calculated using data from the National Center for Health Statistics with respect to age, sex, race, and calendar year).

Determinants of Health

Drug abuse.—The Drug Abuse Warning Network defines drug abuse as the nonmedical use of a substance for psychic effects, dependence, or self-destruction. Included is the use of prescription drugs in a manner inconsistent with accepted medical practice, over-the-counter drugs contrary to approved labeling, and any other substance (heroin, marijuana, glue, etc.) for the reasons above. Alcohol is not included unless it is reported in combination with another drug. Any substance involved in drug abuse is a *drug of abuse.*

Former smoker.—Any person who has smoked at least 100 cigarettes during his or her entire life but who report smoking no cigarettes at the present time is a former smoker.

Particulate matter.—Particulate matter is defined as particles of solid or liquid matter in the air, including both nontoxic materials (soot, dust, and dirt) and toxic materials (lead, asbestos, suspended sulfates and nitrates, etc.).

Pollutant.—A pollutant is any substance that renders the atmosphere or water foul or noxious to health.

Measures of Health

Condition.—A health condition is a departure from a state of physical or mental well-being. Conditions, except impairments, are coded according to the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States* (ICDA).

Based on duration, there are two categories of conditions: acute and chronic. In the Health Interview Survey, an *acute condition* is a condition which has lasted less than 3 months and has involved either a physician visit (medical attention) or restricted activity. The category includes respiratory conditions (ICDA codes 460-486, 501, 508-516, 519, 783), injuries (ICDA codes N800-N870, N872-N884, N890-N894, N900-N994, N996-N999), infective and parasitic conditions (ICDA codes 000-136), and digestive conditions (ICDA codes 520.6-521.5, 521.7-523.9, 525-530, 535-543, 560-561, 564-577, 784-785). In the Health Interview Survey, a *chronic condition* is any condition lasting 3 months or more or is one of certain conditions classified as chronic regardless of their time of onset. The National Nursing Home Survey uses a specific list of conditions classified as chronic, also disregarding time of onset.

Disability.—Disability is any temporary or long-term reduction of a person's activity as a result of an acute or chronic condition. It is often measured in terms of the number of days that a person's activity has been reduced.

Disability day.—The Health Interview Survey identifies several types of days on which a person's usual activity is reduced because of illness or injury (reported for the 2-week period preceding the week of the interview). These short-term disability days are not mutually exclusive categories, but are defined as follows:

> A *restricted-activity day* is any day on which a person cuts down on his or her usual activities for all or most of that day because of an illness or an injury. Restricted activity days are unduplicated counts of bed-disability, work-loss, and school-loss days as well as other days during which a person cuts down on his or her usual activities.
>
> A *bed-disability day* is a day on which a person stays in bed for more than half of the daylight hours (or normal waking hours) because of a specific illness or injury. All *hospital days* are bed-disability days. Bed-disability days may also be work-loss or school-loss days.
>
> A *work-loss day* is a day on which a person did not work at his or her job or business for at least half of his or her normal workday because of a specific illness or injury. The number of work-loss days is determined only for currently employed persons.
>
> A *school-loss day* is a day on which a child did not attend school for at least half of his or her normal schoolday because of a specific illness or injury. School-loss days are determined only for children 6-16 years of age.

Eighth Revision International Classification of Diseases, Adapted for Use in the United States.—See "Mortality" section.

First-listed diagnosis.—In the Hospital Discharge Survey, this is the diagnosis listed first on the face sheet of the medical record.

Incidence.—Incidence is the number of cases of disease having their onset during a prescribed period of time and is often expressed as a rate (e.g., the incidence of measles per 1,000 children 5-15 years of age during a year). Incidence is a measure of morbidity or other events that occur within a specified period of time.

Injury.—In the U.S. Consumer Product Safety Commission's reporting system, an injury is trauma requiring medical care in an emergency room.

According to the Health Interview Survey, an injury is a condition classified in the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States* under codes N800-N999. A *person injured* is one who has sustained one or more injuries in an accident or in some type of nonaccidental violence, and *episodes of persons injured* are the events causing injury (or injuries) as reported by each individual. A person injured may report one or more episodes, and an episode may involve one or more injuries.

Limitation of activity.—Each person identified by the Health Interview Survey as having a chronic condition is classified according to the extent to which his or her activities are limited because of the condition as follows:

(1) Persons unable to carry on *major* activity.
(2) Persons limited in the amount or

kind of major activity performed.
(3) Persons not limited in major activity but otherwise limited.
(4) Persons not limited in activity.

Major activity (or *usual* activity) is the principal activity of a person or of his or her age-sex group. For ages 1-5 years it refers to ordinary play with other children and for ages 6-16 years to school attendance, while for 17 years and over it usually refers to a job, housework, or school attendance.

Notifiable disease.—A notifiable disease is one that health providers are required, usually by law, to report to Federal, State, or local public health officials when diagnosed. Notifiable diseases are those of public interest by reason of their contagiousness, severity, or frequency.

Prevalence.—Prevalence is the number of cases of a disease, infected persons, or persons with some other attribute present during a particular interval of time. It is often expressed as a rate (e.g., the prevalence of diabetes per 1,000 persons during a year).

Primary diagnosis.—In the National Nursing Home Survey, this is the primary condition as extracted from the resident's medical record.

Principal diagnosis.—In the National Ambulatory Medical Care Survey, this is the physician's diagnosis of the patient's most important problem or complaint as evaluated at the time of the visit.

Product-related injury.—The National Electronic Injury Surveillance System counts as a product-related injury any injury reported in a hospital emergency room as being associated with a consumer product, though not necessarily caused by that product.

Self-assessment of health.—In the Health Interview Survey, the respondents are asked to evaluate the health of everyone in their household as compared with other people of the same age.

Significant eye abnormality.—In the Health and Nutrition Examination Survey, significant eye abnormalities include such conditions as cataracts and other lens opacities, glaucoma, cysts, diabetic retinopathy, and trauma but exclude simple refractive errors and eye muscle imbalances (phoria) easily correctable with refractive lenses:

Ambulatory Care

Dental visit.—The Health Interview Survey counts visits to a dentist's office for treatment or advice, including services by a technician or hygienist acting under the dentist's supervision, as dental visits. Services provided to hospital inpatients are not included.

In the Health and Nutrition Examination Survey, *dentist visits* are contacts with dentists only; the data are based on the question, "When was the last time you visited or talked with a dentist about yourself?" As a result, the percent classified as having visited a dentist during a specified time period is generally lower than in the Health Interview Survey.

Disposition of visit.—As used by the National Ambulatory Medical Care Survey, this term describes the variety of followup procedures that a physician may plan for the patient, ranging from no followup to specific return contacts, to referral to other providers of care.

Office.—In the Health Interview Survey, an office refers to the office of any physician in private practice, including physicians connected with prepaid group practices. In the National Ambulatory Medical Care Survey, an office is any location for a physician's ambulatory practice other than hospitals, nursing homes, other extended care facilities, patients' homes, and industrial clinics. However, private offices in hospitals are included.

Physician visit.—The Health Interview Survey counts as a physician visit a visit in person or by telephone to a doctor of medicine or osteopathic physician for the purpose of examination, diagnosis, treatment, or advice. The service may be provided directly by the physician or by a nurse or other person acting under the physician's supervision. Contacts involving services provided on a mass basis are not included, nor are contacts for hospital inpatients.

Physician visits are generally classified by the type of place of visit. In the Health Interview Survey, this includes the *office, hospital outpatient clinic* or *emergency room, telephone* (advice given by a physician in a telephone call), *company or industrial clinic* (units at a place of business that provide treatment through a physician or trained nurse), *home* (any place in which a person was staying at the time a physician was called there), as well as other places.

In the National Ambulatory Medical Care Survey, an *office visit* is any direct personal exchange between an ambulatory patient and a physician, or members of his or her staff, for the purposes of seeking care and rendering health services.

See also "Inpatient Care" section.

Seriousness of problem.—In the National Ambulatory Medical Care Survey, the physician indicates for each patient visit the seriousness of the problem, condition, or symptom which the patient says caused the visit. Seriousness refers to the physician's clinical judgment as to the extent the patient would be impaired if no care were given. It is expressed as very serious, serious, slightly serious, or not serious.

Inpatient Care

Average daily census or *average daily patients.*—This refers to the average number of inpatients receiving care each day during a reporting period, excluding newborns.

Average length of stay.—In the Hospital Discharge Survey, the average length of stay is the total number of patient days accumulated at the time of discharge counting the date of admission but not the date of discharge by patients discharged during a reporting period, divided by the number of patients discharged.

As measured in the National Nursing Home Survey, *length of stay for residents* is the time from their admission until the reporting time, while the *length of stay for discharges* is the total number of patient days accumulated at the time of discharge and includes date of discharge but not date of admission.

Bed.—Any bed that is set up and staffed for use for inpatients is counted as a bed in a facility. In the Master Facility Inventory, the

count is of beds at the end of the reporting period; for the American Hospital Association, it is of the average number of beds during the entire period. The World Health Organization defines a hospital bed as one regularly maintained and staffed for the accommodation and full-time care of a succession of inpatients and situated in a part of the hospital where continuous medical care for inpatients is provided.

Day.—According to the American Hospital Association and Master Facility Inventory, days or *inpatient days* are the number of adult and pediatric days of care rendered during a reporting period. Days of care for newborns are excluded.

In the Health Interview Survey, *hospital days during the year* refer to the total number of hospital days occurring in the 12-month period prior to the interview week. A *hospital day* is a night spent in the hospital for persons admitted as inpatients to a hospital.

In the Hospital Discharge Survey, *days of care* refer to the total number of patient days accumulated by patients at the time of discharge from non-Federal short-stay hospitals during a reporting period. All days from, and including, the date of admission to, but not including, the date of discharge are counted. A *patient* is a person who is formally admitted to the inpatient service of the hospital for observation, care, diagnosis, or treatment.

Discharge.—The Health Interview Survey defines a *hospital discharge* as the completion of any continuous period of stay of 1 night or more in a hospital as an inpatient, excepting the period of stay of a well newborn infant.

In the Hospital Discharge Survey, American Hospital Association, and Master Facility Inventory, this is the formal release of an inpatient by a hospital, i.e., the termination of a period of hospitalization (including stays of 0 nights) by death or by disposition to a place of residence, nursing home, or another hospital. It excludes discharges of newborn infants.

In the National Nursing Home Survey, this is the formal release of a resident by a nursing home.

Hospital.—In the American Hospital Association (AHA) and Master Facility Inventory (MFI), hospitals are institutions licensed as hospitals whose primary function is to provide diagnostic and therapeutic patient services for medical conditions and which have at least six beds, an organized physician staff, and continuous nursing services under the supervision of registered nurses. The AHA data differ slightly from those of the MFI, since data from the MFI reflect osteopathic hospitals as well as hospitals not registered with AHA. Non-AHA hospitals comprise 5-10 percent of all hospitals in the country. The World Health Organization considers an establishment a hospital if it is permanently staffed by at least one physician, can offer inpatient accommodation, and can provide active medical and nursing care.

Hospitals may be classified by type of service, ownership, and length of stay.

Federal hospitals are operated by the Federal Government. All other hospitals are *non-Federal hospitals.*

General hospitals provide both diagnostic and treatment services for patients with a variety of medical conditions, both surgical and nonsurgical. According to the World Health Organization, these are hospitals that provide medical and nursing care for more than one category of medical discipline (e.g., general medicine, specialized medicine, general surgery, specialized surgery, obstetrics, etc.); excluded are hospitals, usually ones in rural areas, which provide a more limited range of care. *Psychiatric hospitals* are ones whose major type of service is psychiatric care. See also "Psychiatric Care" section.

Short-stay hospitals in the Hospital Discharge Survey are those in which the average length of stay is less than 30 days. The American Hospital Association and Master Facility Inventory define *short-term hospitals* as hospitals in which more than half the patients are admitted to units with an average length of stay of less than 30 days and *long-term hospitals* as ones in which more than half the patients are admitted to units with an

average length of stay of 30 days or more. The Health Interview Survey defines *short-stay hospitals* as any hospital or hospital department in which the type of service provided is general; maternity; eye, ear, nose, and throat; children's; or osteopathic.

Specialty hospitals provide a particular type of service to the majority of their patients such as psychiatric, tuberculosis, chronic disease, rehabilitation, maternity, and alcoholic or narcotic.

Institutionalized population.—See "Demographic Terms" section.

Nursing care.—Nursing care is the provision of any of the following services: application of dressings or bandages; bowel and bladder retraining; catheterization; enema; full bed bath; hypodermic, intramuscular, or intravenous injection; irrigation; nasal feeding; oxygen therapy; and temperature-pulse-respiration or blood pressure measurement.

Nursing home.—The minimum standards and regulations for nursing homes vary among the States so that no uniform definition is possible. However, the Master Facility Inventory includes in its count only facilities licensed by the States in which they are located. The homes are then classified according to the level of care they provide, as follows:

Nursing care homes must employ one or more full-time registered or licensed practical nurses and provide nursing care to at least half the residents.

Personal care homes with nursing have some, but fewer than half, the residents receiving nursing care. In addition, such homes must employ one or more registered or licensed practical nurses or provide administration of medications and treatments in accordance with physician's order, supervision of self-administered medications, or three or more personal services. *Personal care homes without nursing* have no residents receiving nursing care. These homes provide administration of medications and treatments in accordance with physician's order, supervision of self-administered medications, or three or more personal services.

Domiciliary care homes primarily provide domiciliary care but also provide one or two personal services.

For the 1973-74 National Nursing Home Survey, only nursing homes providing some level of nursing care were classified as nursing homes. For other years, all four categories of homes were included.

Occupancy rate.—The Master Facility Inventory and American Hospital Association define *hospital occupancy rate* as the average daily census divided by the number of hospital beds during a reporting period. The *occupancy rate for other facilities* is calculated as the number of residents reported at the time of the interview divided by the number of beds reported.

Outpatient visit.—According to the American Hospital Association, these are visits by patients not lodged in the hospital for medical, dental, or other services. See also "Ambulatory Care" section.

Personal care.—Personal services, used in classifying nursing homes by level of care, include massage and assistance with bathing, dressing, correspondence, shopping, getting about, and eating.

In the Survey of Institutionalized Persons, personal care service needs are classified as including assistance with getting in and out of bed, eating and drinking, bathing and dressing, getting about, and using the toilet.

Resident.—In the National Nursing Home Survey, a resident is a person who has been formally admitted to but not discharged from an establishment.

Services needed.—In the Survey of Institutionalized Persons, the category "services needed" groups the services of different health professionals into general categories of service, e.g., *medical* (needing the services of a physician, intern, medical resident, or dentist), *nursing* (needing the services of a registered nurse, licensed practical nurse, vocational nurse, nurse's aide, or orderly), *psychiatric* (needing the services of a psychologist, psychiatrist, or psychiatric aide), etc.

Psychiatric Care[1]

Addition.—An individual is classified as an addition to a psychiatric facility by being a new admission, a re-admission, or a return from leave to either an inpatient or an outpatient psychiatric facility.

Day.—Inpatient days for psychiatric facilities include all days from, and including, the date of last admission to, but not including, the discharge date.

Mental disorder.—A mental disorder is any of several disorders listed in Section V of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

Mental health facility.—A mental health facility is an administratively distinct public or private agency or institution whose primary concern is the provision of direct mental health services to the mentally ill or emotionally disturbed. Facilities include public and private psychiatric hospitals, psychiatric units of general hospitals, residential treatment centers (for emotionally disturbed children), federally funded community mental health centers, freestanding outpatient psychiatric clinics, multiservice mental health facilities, and halfway houses.

Psychiatric hospitals are hospitals primarily concerned with providing inpatient care and treatment for the mentally ill. *Psychiatric inpatient units of Veterans Administration general hospitals* and *Veterans Administration neuropsychiatric hospitals* are often combined into the category *Veterans Administration psychiatric hospitals* because of their similarity in size, operation, and length of stay. Other psychiatric hospitals include State and county mental hospitals and private mental hospitals.

General hospitals providing psychiatric services are hospitals that knowingly and routinely admit patients to a separate psychiatric unit for the purpose of diagnosing and treating psychiatric illness.

Residential treatment centers (for emotionally disturbed children) are residential institutions primarily serving emotionally disturbed children and providing treatment services, usually under the supervision of a psychiatrist.

Federally-funded community mental health centers are legal entities through which comprehensive mental health services are provided to a delineated catchment area. This mental health delivery system may be implemented by a single facility (with or without subunits) or by a group of affiliated facilities which make available at least the following essential mental health services: inpatient, day treatment, outpatient, emergency care, and community consultation and education.

Freestanding outpatient psychiatric clinics are administratively distinct facilities, the primary purpose of which is to provide nonresidential mental health service and where a psychiatrist assumes medical responsibility for all patients and/or directs the mental health program.

Multiservice mental health facilities are facilities offering more than one service mode (e.g., inpatient and outpatient) and not considered to be primarily any one of the above types of facilities.

Halfway houses are nonmedical residential facilities which primarily serve mentally ill or emotionally disturbed people, focusing on the provision of room, board, and assistance in daily living activities rather than on the provision of a planned treatment program.

Patient care episode.—Patient care episodes are counted as the number of residents in inpatient mental health facilities or on the rolls of noninpatient facilities at the beginning of a reporting period plus the total additions to these facilities—new admissions, re-admissions, and returns from full-time leave during the reporting period. This measure includes a duplicated count of persons.

Service mode.—Service mode and *treatment modality* refer generally to the kinds of mental health service available: inpatient care, outpatient care, day treatment, etc.

Inpatient care is the provision of mental health treatment to people requiring 24-hour supervision.

[1] The definitions for psychiatric care are those used by the National Institute of Mental Health.

Outpatient care is the provision of mental health treatment on an outpatient basis and does not involve any overnight stay in an inpatient facility.

Day treatment is the provision of a planned therapeutic program during most or all of the day for people needing broader programs than are possible through outpatient visits, but who do not require full-time hospitalization.

Manpower

Full-time equivalent employee (FTE).—The American Hospital Association and Master Facility Inventory use an estimate of full-time equivalent employees that counts two part-time employees as one full-time employee, a *full-time employee* being someone working 35 hours a week or more. The National Nursing Home Survey uses an estimate of full-time employees that counts 35 hours of part-time employees' work per week as equivalent to one full-time employee.

Group practice.—Group practice is the application of services by three or more physicians formally organized to provide medical care, consultation, diagnosis, and/or treatment through the joint use of equipment and personnel, and with the income from medical practice distributed in accordance with methods previously determined by members of the group.

Physician.—Physicians are licensed doctors of medicine or osteopathy classified by the American Medical Association and others through self-reporting, as follows:

Active physicians are ones currently practicing, regardless of the number of hours worked per week; *professionally active physicians* exclude those not classified by specialty.

Federal physicians are employed by the Federal Government; *non-Federal* or *civilian physicians* are not.

Licensed physicians are authorized to practice in a State. Every State (and the District of Columbia) requires that physicians and dentists be licensed there in order to practice in that State.

Office-based physicians are physicians who spend the plurality of their time working in practices based in private offices; *hospital-based physicians* spend the plurality of their time as salaried physicians in hospitals.

Private practice physicians are independent of any external policy control and are self-employed or salaried by a partnership. See also "Professional manpower."

Physician specialty.—A physician specialty is any specific branch of medicine that a physician may concentrate in.

The specialty classification used by the Bureau of Health Manpower (BHM) and National Ambulatory Medical Care Survey (NAMCS) follows the American Medical Association categories:

Primary care specialties include general practice (or family practice), internal medicine, and pediatrics.

Medical specialties include, along with internal medicine and pediatrics, the areas of allergy, cardiovascular disease, dermatology, gastroenterology, pediatric allergy and cardiology, and pulmonary diseases.

Surgical specialties include general surgery, neurological surgery, obstetrics and gynecology, ophthalmology, orthopedic surgery, otolaryngology, plastic surgery, colon and rectal surgery, thoracic surgery, and urology.

Other specialties covered by NAMCS are geriatrics, neurology, preventive medicine, psychiatry, and public health. Other specialties covered by BHM are aerospace medicine, anesthesiology, child psychiatry, neurology, occupational medicine, pathology, physical medicine and rehabilitation, psychiatry, public health, and radiology.

Place of employment.—The classification of people employed in the health service industry by place of employment is a U.S. Bureau of the Census adaptation of the U.S. Office of Management and Budget's *Standard Industrial Classification Manual, 1967* which classi-

fied people according to health service industry codes 801-809.

Professional manpower.—Professional manpower includes chiropractors, dentists, dental hygienists, licensed practical nurses, pharmacists, physical therapists, physicians, podiatrists, and registered nurses, as well as other occupations not covered in this report.

In the United States, counts of these professionals include only those licensed in the State where they practice, with licensure usually requiring the completion of an appropriate degree or certificate program for that profession. In international counts prepared by the World Health Organization, only those professionals active in their profession are counted.

Professionals may be classified according to specialty, place of practice, or other criteria. See "Physician."

Consumer Price Index (CPI).—The CPI is prepared by the U.S. Bureau of Labor Statistics. It is a measure of the changes in average prices of the goods and services purchased by urban wage earners and by clerical workers and their families. The medical care component of the CPI shows trends in medical care prices based on specific indicators of hospital, medical, dental, and drug prices.

A recent revision of the CPI has been in use since January 1978, but the data in this report reflect the index used before the revision.

Economic Stabilization Program (ESP).—This Federal program was established to control wages and prices. On August 15, 1971, all wages and prices were frozen for a period of 90 days, and a system of wage and price controls, administered through a cost-of-living council, was implemented. Controls continued, with periodic changes in the flexibility and intensity with which they were enforced, until their legislative authority expired in April 1974.

Gross national product (GNP).—This is the most comprehensive measure of a nation's total output of goods and services. In the United States, the GNP represents the dollar value in current prices of all goods and services produced for sale plus the estimated value of certain imputed outputs (i.e., goods and services that are neither bought nor sold). The GNP is the sum of (1) consumption expenditures by both individuals and nonprofit organizations, plus certain imputed values; (2) business investment in equipment, inventories, and new construction; (3) Federal, State, and local government purchases of goods and services; and (4) the sale of goods and services abroad minus purchases from abroad.

Health insurance plans.—Health insurance plans are formal plans with defined membership and benefits, designed to pay all or part of the hospital, physicians, or other medical expenses of the insured individual. The different types of plans include prepaid group plans.

Prepaid group plans involve physician group practices which provide a comprehensive range of health care services to an enrolled population for a fixed prepaid capitation payment. *Health Maintenance Organizations* are public or private organizations that provide a comprehensive range of health care services, either directly or under arrangement with others, to an enrolled population for a fixed prepaid capitation payment; prepaid group practice plans are one form of Health Maintenance Organization.

Medicaid (Title XIX).—This program is federally aided but State operated and administered. It provides medical benefits for certain low-income persons in need of medical care. The program, authorized in 1965 by Title XIX of the Social Security Act, categorically covers participants in the Aid to Families with Dependent Children program as well as some participants in the Supplemental Security Income program and other people deemed medically needy in a participating State. States also determine the benefits covered, rates of payment for providers, and methods of administering the program.

Medicare (Title XVIII).—This is a nationwide health insurance program providing health insurance protection to people 65 years of age and over, people eligible for social security disability payments for over 2 years, and people with end-stage renal disease, regardless of income. The program was enacted July 30, 1965, as Title XVIII, *Health Insurance for the Aged,* of the Social Security Act, and became effective on July 1, 1966. It consists of two separate but coordinated programs: hospital insurance (Part A) and supplementary medical insurance (Part B).

National health expenditures.—This measure estimates the amount spent for all health services and supplies and health-related research and construction activities consumed in the United States during a specified time period. Detailed estimates are available by

source of expenditure (e.g., consumer out-of-pocket, private health insurance, and government programs) and by type of expenditure (e.g., hospitals, physicians, and drugs). Data are compiled from a variety of sources which collect data from the providers of care.

Health services and supplies expenditures are outlays for goods and services relating directly to patient care plus expenses for administering health insurance programs and for government public health activities. This category is equivalent to total national health expenditures minus expenditures for research and construction.

Private expenditures are outlays for services provided or paid for by nongovernmental sources—consumers, insurance companies, private industry, and philanthropic organizations.

Public expenditures are outlays for services provided or paid for by Federal, State, and local government agencies or expenditures required by governmental action (such as workmen's compensation insurance payments).

Personal health care expenditures.—These are outlays for goods and services relating directly to patient care. The expenditures in this category are total national health expenditures minus expenditures for research and construction, expenses for administering health insurance programs, and government public health activities.

GUIDE TO TABLES

List of Keywords

The following list of keywords is intended to assist the reader in using the Guide to Tables, since it may not be readily apparent which tables are included in each section of Part B and relevant data may be found in more than one section. Following the keywords are the Part B section titles and alphabetical designations of the subsections where data on the subject appear. However, the list of keywords is not all inclusive. For example, there are no keywords for tables with general population, fertility, or mortality data; the Guide to Tables should be sufficient for locating these kinds of data.

Statistics on patient's conditions and diagnoses are found throughout the report. For the most part, the sections indicated by the keywords "acute conditions" and "chronic conditions" include detailed tables of conditions and diagnoses.

Keywords referenced to the Health Care Costs and Financing section will not necessarily appear in the Guide to Tables. Since each of the subsections within the Health Care Costs and Financing section contains relatively few tables, the reader is advised to refer to all of the tables in the appropriate subsection(s).

Abortion ---------- Health Status and Determinants: B

Acute conditions ---------- Health Status and Determinants: E; Utilization of Health Resources: A, B, C; Health Care Costs and Financing: J

Air pollution ---------- Health Status and Determinants: D

Alcohol use ---------- Health Status and Determinants. D

Barriers to care ---------- Health Status and Determinants: D

Birth weight, low ---------- Health Status and Determinants: E

Cancer ---------- Health Status and Determinants: C, E; Health Care Costs and Financing: J

Chronic conditions ---------- Health Status and Determinants: E; Utilization of Health Resources: A, B, C; Health Care Costs and Financing: J

Cigarette smoking ---------- Health Status and Determinants: D

Circulatory system diseases ---------- Health Status and Determinants: C

Contraceptive use ---------- Health Status and Determinants: B

Dentistry ---------- Health Status and Determinants: E; Utilization of Health Resources: A; Health Care Resources: A; Health Care Costs and Financing: A, B, C, D, E

Dieting (weight control) ---------- Health Status and Determinants: D

Disability days ---------- Health Status and Determinants: E

Diseases, notifiable ---------- Health Status and Determinants: E

Drug abuse ---------- Health Status and Determinants: D; Utilization of Health Resources: A

Exercise and sports participation ---------- Health Status and Determinants: D

Fluoridation of water ---------- Health Status and Determinants: D

Food consumption ---------- Health Status and Determinants: D

Health insurance ---------- Utilization of Health Resources: A; Health Care Costs and Financing: D

GUIDE TO TABLES

(Numbers in bold face refer to tables in this report. Other numbers indicate additional data in the 1976-77 annual report, and daggers indicate data in the 1975 annual report. See note at end of Guide.)

I. HEALTH STATUS AND DETERMINANTS	Time trend	Geographic area: United States only	Geographic area: International	Age	Sex	Color or race	Family income	Other variables
A. Population								
United States	**1, 3, 6,**1 †	**4** †	**3,6**	**3, 7, 8,** 2 †	**7,** 2 †	**7,** 2 †	†	†
Components of change	**2,** 3, 5 †	4, 5				**2,** 3		
Projections	**5, 8,** 6, 7 †			**8,** 7 †		†		
Children and adolescents	**9**							**9**
B. Fertility								
General	**2, 10, 11, 12, 15,** 3, 5, 8, 11, 12	5, 15	**15**	**10, 11 12,** 11, 12 †		**2, 10, 11,** 3, 8, 11, 12 †	†	**11, 12** †
Teenagers	**13, 14, 15**		**15**	**13, 14, 15**		**13, 14**		
Contraceptive use	**17,** 10	†		**17,** 9, 10 †		**17,** 10 †	9 †	
Abortion	**16, 18,** 98	99 †	**16**	**18,** 98 †		**18,** 98		**18, 19,** 98, 100
Unmarried women	**14,** 13, 14			**14,** 13, 14		**14,** 13, 14		
C. Mortality								
General	**2, 21, 22, 27,** 3, 5, 17, 18	5, 18, 23–25 †		**20, 21, 33,** 16–18, 23–25 †	**20–21, 33,** 16, 17, 23–25 †	**2, 20, 22, 33,** 3, 16, 17, 23–25 †		**33** †
Projections				**21**	**21**			
Life expectancy	**23, 24,** 19	†	**24**	**21, 12, 24,** 19 †	**21, 23, 24,** 19 †	**23,** 19 †		
Infant, fetal, and perinatal	**25, 26,** 20, 22 †	21 †	**26**	**25** †	†	**25,** 22 †	†	†
Heart disease	**27, 28,** 26–30			**28,** 26–30	**28,** 28–30	**28,** 26–30		
Ischemic heart disease	**27, 29**		**30**	**29**	**29, 30**	**29**		
Cancer	**27, 31,** 26–30		**30**	**31,** 26–30	**30, 31, 66,** 28–30	**31,** 26–30		†
Respiratory system cancer	**27, 32,** 29, 30		**30**	**32,** 29, 30	**30, 32,** 29, 30	**32,** 29, 30		
Circulatory system diseases	**30**		**30**		**30**			
D. Determinants of health								
Prenatal care	**34,** 48			**35, 71,** 49		**34, 35, 71,** 48, 49 †		**71** †
Immunization	**36,** 50–53	**38,** 50–53		**36–38,** 50–53		**37, 38,** 50–53 †		**36–38**
Preventive care		†		†	†	†	†	
Usual place of care				54, 57	54, 57	54, 57	54, 57	

Barriers to care				
Injuries				
Food consumption				
Dieting				
Eating problems				
Obesity				
Exercise and sports participation				
Drug abuse	**46**			
Cigarette smoking	**46–49,** 33, 36	†		†
Alcohol use	**46**		39	†
Other substances				
Air pollution	**53,** 32			
Fluoridation	**52**		**52**	
Weather				
Other factors		†		
E. Measures of health				
Self-assessment of health		†		
Chronic conditions				†
Visual disorders				
Institutionalized population, personal care				
Acute conditions				†
Disability days				
Restricted activity	66			†
Bed-days	67			†
Work-loss				†
Limitation of activity				
Nutrition				
Diseases, notifiable	**66,** 76			
Diseases for which immunization is available	**65,** 70			
Cancer				
Tuberculosis	**69**	†	71	
Gonorrhea	**70,** 72, 74–76			
Venereal diseases, all	72–76			†
Influenza	65–67			
Dental disease		†		†
Dental care				
Birth-weight, low				†
Prenatal care				
Height and weight				

55, 56	55,56	55, 56	55, 56	
54	**54**			**54**
39		**39**		
40	**40**	**40**	**40**	
41	**41**	**41**	**41**	
42, 43,	**42, 43,**	**42, 43** †	42 †	**43**
43–46 †	43–46 †			
44, 45, 47	**44, 45,** 47	**44, 45**	**44, 45**	**44**
46				
46, 48, 49,	**47–49, 51,**	**47–49**	35 †	37 †
51, 33, 34,	33–38 †			
36–38 †				
46, 50, 39, 42	**50,** 39, 41, 42	**50,** 39, 41	**50,** 41, 42	39–42 †
51	**51**			
				53, 32
				†
				58
31				59, 60
55, 61, 61 †	**55, 61,** 61 †	†	**55, 61,** 61 †	**61**
56, 63, 64 †	**56,** 64 †	†	64 †	63 †
57			**57**	**57**
58				**58**
59 †	**59** †		**59**	**59**
60, 61, 66,	**60–62,** 68,	†	**60, 61,** 68 †	**61, 62,** 69
68 †	69 †			
60, 61, 67,	**60–62,** 68,	†	**60, 61,** 68 †	**61, 62,** 69
68 †	69 †			
60, 68 †	**60, 62,** 68,	†	**60,** 68 †	**62,** 69
	69 †			
56, 61, 76	**56, 61**		**61**	**61, 76**
†	†	†	†	
	67, 68			**67, 68**
69, 71	**69,** 71	**69,** 71		**69,** 71
70, 72	**70,** 72			
72, 73	72, 73			
65–67				
†	†	†	†	
63, 64			**64**	**63**
71, 72, 77	†	**71, 72,** 77 †	†	**71, 72**
72	†	**72** †	†	**72**
78, 79	78, 79			

II. UTILIZATION OF HEALTH RESOURCES	Time trend	Geographic area—United States	Age	Sex	Color or race	Family income	Self-assessed health	Other variables
A. Ambulatory Care								
Physician's office	**74** †	**73, 77, 78, 98,** 81, 82, 84–87 †	**73–79, 91, 98,** 80–82, 84–87 †	**73, 78, 79, 98,** 80–82, 84–87 †	**73–75, 78, 79, 98,** 80–82, 84–87 †	**73, 75, 78, 98,** 87 †	**73, 78, 91, 98**	**76, 91,** 81, 82, 84–86 †
Acute and chronic conditions		**86–90,** 83	**80–85,** 83	**80,** 83	83			**81–90**
Injuries			**92**	**92**		**92**		
Hospital outpatient clinic	**74, 136,** 88	**73, 77, 78, 136**	**73–75, 77, 78,** 88	**73, 78,** 88	**73–75, 78**	**73, 75, 78,** 88	**73, 78**	
Injuries			**92**	**92**		**92**		**92**
Hospital emergency room	89, 136	**73, 77, 78, 136**	**73–75, 77, 78,** 89	**73, 78,** 89	**73–75,** 78	**73, 75, 78,** 89	**73, 78**	
Injuries			**92, 93,** 91	**92, 93,** 91		**92**		**93,** 90
Drug abuse			**94, 95,** 92	**94,** 92	**94,** 92			**94,** 92, 93
Telephone	**74**	**73, 77**	**73–75, 77**	**73**	**73–75**	**73–75**	**73**	
Injuries			**92**	**92**		**92**		
Company or industry clinic	**74**	**73**	**73, 74**	**73**	**73, 74**	**73**	**73**	
Home	**74**	**73, 77**	**73, 74, 77**	**73**	**73, 74**	**73**	**73**	
Free-standing clinic		**78**	**78**	**78**	**78**	**78**	**78**	
Dentist	†	**96, 98,** 94	**96–98,** 94 †	**96, 98,** 94	**96, 98,** 94	**96–98,** 94 †	**98**	**97** †
Chiropractor		**98**	**98**	**98**	**98**	**98**	**98**	
Podiatrist		**98**	**98**	**98**	**98**	**98**	**98**	
Physical therapist		**98**	**98**	**98**	**98**	**98**	**98**	
Mental health service settings								**99**
Outpatient services	**117, 118** †	†	95 †	†	†			**117, 118,** 95 †
Health insurance			**76**					**76**
Family planning services			96, 97	96	97			97
B. Inpatient Care in Short-term Facilities								
Discharges or episodes	**100, 101** †	105 †	**76, 101, 102, 106,** 104, 105 †	**101, 102, 105** †	**106,** 105 †	**106,** 104, 105 †		**76, 100** †
Acute and chronic conditions			**103,** 101 †	**103,** 101				
Days of care	**100, 101**	†	**76, 101, 102, 106,** 104 †	**101, 102**	**106**	**106,** 104 †		**76, 100**
Acute and chronic conditions			**104, 102** †	**104,** 102				
Length of stay	**101** †	†	**101, 106,** 104 †	**101**	**106** †	**106,** 104 †		
Acute and chronic conditions			**105,** 103 †	**105,** 103				
Surgery	**107–110**	**110**	**108–110**	**108–110**				
C. Inpatient Care in Long-term Facilities								
Institutionalized population			**111–113**	**111**	**111**			**112, 113**
Nursing home residents	110 †	†	**114,** 106 †	**114,** 106 †	**114** †			**114, 115** †
Acute and chronic conditions			107, 108 †	107, 108				**115**
Nursing home discharges			**114**	**114**				**114**
Mental health	**116–118,** 110, 111 †	†	109 †	†	†		†	**116–118,** 109, 110 †

III. HEALTH CARE RESOURCES	Time trend	Geographic area: United States only	Geographic area: International	Type of practice	Specialty	Other variables
A. Manpower						
Persons active in health field	**119, 135**	**135**				**135**, 112 †
Physicians: total	**121–123**, 113, 114 †	†	**122, 129**	**123**, 114		†
Physicians: total active	**124**			**126**, 115	**124, 126**, 115	**126**
Projections	**120, 125**				**125**	
Physicians: group practice	**128**	**128**				
Physicians: active, non-Federal	**127**, 118	**127, 130**, 116, 118 †		†	116	
Physicians: active, non-Federal, office-based		117, 122			117	122
Dentists and dental hygienists	**121**, 120 †	**130**, 119–121 †	**129**		†	†
Nurses: registered and practical	†	**130**, 121 †	**129** †			†
Pharmacists	**121**	121	**129**			
Other practitioners	**121** †	121 †				†

	Time trend	Geographic area: United States only	Geographic area: International	Specialty	Ownership	Beds	Employees	Outpatient visits	Occupancy rate	Other variables
B. Facilities										
Inpatient: total	123			123		123	123			123 †
Hospitals	**145** †		**145**	**145** †		**145** †	†			†
Non-Federal hospitals	†	126–18, 130		126, 128		126–128	130 †			129
Short-stay hospitals	**131**			**131**, 124, 125	**131**, 124, 125	**131**, 125				
Community hospitals	**131–137**	**132–139**		**131**	**131**	**131–134, 138, 139**	**135, 138, 139**	**136, 138, 139**	**137, 138, 139**	
Long-stay hospitals	**140**			**140**, 124, 125	**140**, 124, 125	**140**, 125				
Nursing homes	**142**, 131 †	**143**, 133, 134 †			**142**	**142, 143**, 131–134 †	132, 133 †		132, 133	132, 133
Mental health facilities	†			**141**, 135, 136	**141**, 135, 136					**141**, 135, 136
Other facilities	†	†		**144** †		**144** †	**144**		**144**	**144** †

IV HEALTH CARE COSTS AND FINANCING	Time trend	Geographic area		Age	Income	Type of expenditure	Source of funds or payment	Specialty	Type of coverage	Other variables
		United States	International							
National health expenditures	**146, 148–152,** 137–142 †		**147**		**148, 151, 152,** 138, 141, 142	**149, 150,** 139, 140				†
Public program expenditures (including Medicare and Medicaid)	**155–157,** 145	**155,** 145, 146 †		**160,**151 †	†	**154, 156, 157,** 144, 146 †	**154, 160,** 144, 151 †			**154–156,** 144, 151 †
Personal health care expenditures	**153, 161,** 143, 149, 150, 159	†		**158–161,** 147–151 †	†	**158, 159, 162,** 147, 148, 152, 159	**153, 158–162,** 143, 147–152, 159 †		**162,** 159	**160,** 151
Health insurance coverage	160 †	**164, 169, 170,** 155, 156 †		**164, 166–170,** 153–158 †	**164, 166–170,** 154, 155, 157, 158 †	**162,** 153, 160	**162,** 152 †		**162–170,** 152–160	**164, 165, 167–170,** 157, 158 †
Consumer Price Index	**171, 172,** 162–164	164				**171, 172,** 162–64				
Hospital costs and expenses	**173–176,** 165–167 †	**175** †								**173–176,** 166, 167
Nursing home charges	**177**	**177, 178,** 168 †		**177, 179** †			**178, 179** †			**177–179,** 169 †
Physicians' fees and incomes	**180, 181,** 170–172 †	**182,** 173 †			**180,** 170			**180–182,** 170–173 †		**181, 182** †
Economic cost of cancer	177					**183–185**				**183–185,** 176, 177
Health research and development expenditures	**187, 188,** 179, 180						**186–188,** 179, 180			**186–188,** 178–180

NOTE: Additional data on the specified subject are presented in the 1976–77 and 1975 annual reports (National Center for Health Statistics and National Center for Health Services Research: *Health, United States, 1976–77,* DHEW Pub. No (HRA) 77-1232, Health Resources Administration Washington. U.S Government Printing Office, 1977; National Center for Health Statistics: *Health, United States, 1975,* DHEW Pub No (HRA) 76–1232, Health Resources Administration. Washington. U.S. Government Printing Office, 1976.

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